



# **STANLEY R. MICKELSEN SAFEGUARD COMPLEX**

## **CULTURAL RESOURCE MANAGEMENT PLAN**



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# **INTRODUCTION**

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## **EXECUTIVE SUMMARY**

### **INTRODUCTION**

As a result of the USSR's successful testing on August 26, 1957 of an Intercontinental Ballistic Missile (ICBM) and subsequent orbiting of the Sputnik I satellite, defense of the United States against ballistic missiles became a national priority. Following a decade of technology development and system tests, a Safeguard Anti-Ballistic Missile (ABM) site was authorized by Congress to be constructed near Nekoma, North Dakota to defend Minuteman ICBMs based near Grand Forks, North Dakota.

The Stanley R. Mickelsen Safeguard Complex (SRMSC) lies in extreme northeast North Dakota. Installations which are part of the complex are located in four counties of North Dakota: Pembina, Ramsey, Walsh, and Cavalier. The SRMSC consisted of two phased-array radars, the Missile Site Radar (MSR) and the Perimeter Acquisition Radar (PAR). Both the MSR and PAR sites were considered small, self-contained communities. The four Remote Sprint Launch (RSL) sites, clustered about the MSR at varying distances, were manned by personnel garrisoned at the MSR.

The SRMSC became operational on October 1, 1975 and was inactivated on February 10, 1976. It was the only operational ABM system ever deployed in the free world. It is generally recognized that its construction and activation were instrumental in successfully negotiating the ABM and Strategic Arms Limitation Talks (SALT) Treaties with the Soviet Union. The PAR was leased to the U.S. Air Force (USAF) in September 1977, and currently remains operational as an early warning and surveillance radar for the North American Air Defense Command and Satellite Surveillance Network. The USAF redesignated the PAR Site as Cavalier Air Station. The remainder of the SRMSC was dismantled and placed in a caretaker status until December 1991, when the United States Army Space and Missile Defense Command (USASMDC) reacquired accountability for the property in preparation for possible future ABM deployment.

As a result of the important part that SRMSC played in the Cold War victory over the former Soviet Union, and the unique technological and architectural features it includes, USASMDC recognized the fact that certain key SRMSC facilities could be eligible for the National Register of Historic Places (NR) as being of “exceptional importance” pursuant to 36 Code of Federal Regulations (CFR) Part 60.

## **CULTURAL RESOURCE MANAGEMENT PLAN**

The primary purpose of cultural resource management planning, which includes the development of Cultural Resource Management Plans (CRMP) like this one, is to ensure the preservation of important examples of our national culture and heritage. The intent of this CRMP is to insure that historic preservation requirements are addressed and taken into consideration during any type of planning at SRMSC which may impact these resources. These requirements will be incorporated into normal operations and maintenance, land use planning, annual work plans, military construction planning and design and preservation, restoration and rehabilitation of National Register of Historic Places (NR) eligible buildings.

The SRMSC CRMP is the first comprehensive synthesis and planning document prepared for SRMSC. This CRMP consists of two parts:

1) A Cultural Resource Planning Manual (CRPM) for land management personnel at the SRMSC. The CRPM includes chapters on :

- The Environmental Setting
- The History of Northeast North Dakota
- Federal Laws, Regulations and Executive Orders
- Inventory of Historic Properties

- Disturbance Processes and Site Management
- The Planning and Compliance Key (Compliance with Section 106 of the National Historic Preservation Act).

2) Appendices which provide detailed reference information:

- The National Historic Preservation Act of 1966, as Amended (full text)
- Army Regulation 200-4
- Department of the Army Pamphlet 200-4
- Cultural Resources Survey of the Cavalier Air Force Station
- Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings
- The SRMSC Installation Management Programmatic Agreement.
- A Historic Context which will provide the history of the SRMSC and how it relates to the Cold War and ABM development. A comprehensive cultural resources inventory describing all Cold War significant structures and buildings at the SRMSC. These elements will be in the form of a Historic American Engineering Record (HAER) study previously prepared for the SRMSC.

The preparation of a CRMP for the SRMSC is mandated by Department of Defense Directive 4710.1 (Archaeological and Historic Resources Management, 1984) and Army Regulation 200-4 (Cultural Resource Management Planning).

USASMDC has determined that the tactical areas of the SRMSC are eligible for listing on the NR and that the administrative area of the PAR are also eligible. Additionally, it was determined that although all four of the RSLs are potentially eligible for listing on the NR, only RSL-3 would be maintained due to the deterioration and salvage efforts

which have taken place at RSLs 1, 2 and 4. The buildings and structures that were determined to be eligible at SRMSC are:

### **Perimeter Acquisition Radar**

Perimeter Acquisition Radar Building

Personnel & Equip Tunnel

PAR Power Plant

Limited Area Sentry Station

Heat Sink

Fuel Oil Pump House

Electrical Substation

Waste Stabilization Ponds

Water Storage Reservoirs

Community Center

Gymnasium

Limited Area Sentry Station

Resident Engineer's Office

Fire Station

Bachelor Officer's Quarters

Bachelor Enlisted Men's Quarters

Controlled Area Sentry Station

Fresh Water Pump House

Industrial Building

Ballfield

Helipad

Safeguard Period Roads

## **Missile Site Radar**

Limited Area Sentry Station  
Missile Site Control Building  
MSR Power Plant  
Universal Missile Building  
Warhead Handling Building  
Exclusion Area Sentry Station  
Launch Area Utility Tunnel  
Spartan Launch Stations  
Sprint Launch Stations  
Pers. Equip. & Utility Tunnel

## **Remote Sprint Launch #1, #2, #3, #4**

Limited Area Sentry Station  
Limited Area Security Fence  
Sprint Launch Stations  
Exclusion Area Sentry Station  
Exclusion Area Fence  
Remote Launch Operations Bldg

Cultural Resource Planning at the SRMSC will be performed in two independent, but closely related, phases. The first phase, discussed in Chapter 6, will be the accomplishment of routine repair and maintenance activities necessary to stabilize NR eligible properties at the SRMSC. The second phase, discussed in Chapter 7, will be the accomplishment of undertakings in accordance with Section 106 of the NHPA and AR 200-4.

## **Mitigation Measures, Including the Historic American Engineering Record (HAER)**

In situations where cultural resources will be irrevocably significantly affected by an undertaking, several mitigations can be put in place. In these cases the mitigation is geared to recovering as much information about the resource as possible to insure that the data is not lost to current and future scholars. In the case of archaeological sites, this is accomplished by a data recovery project (the classic archaeological “dig”) that will extract all the information possible from a site. Of course a data recovery not only recovers all the information a property might hold, it also destroys the site in the process.

In the case of standing historic structures, the equivalent of a data recovery is the Historic American Buildings Survey (HABS) or the Historic American Engineering Record (HAER). A HABS is used for buildings associated with a historic event, person or architectural style. The HAER is for structures that were, in themselves, significant engineering accomplishments.

In 1993, the USASMDC made the decision to prepare HAER documentation for the tactical areas of the SRMSC in preparation for a possible new deployment of an ABM system. Most of the non-tactical buildings were also recorded. The SRMSC HAER is one of largest and most comprehensive recordations of its type ever prepared. The data is presented in several parts. First, it provides a detailed historic context for the complex as a whole. Second it provides historical background, construction drawings and photographs on over 60 buildings. And finally, the most significant and complex buildings, such as the MSCB, PAR and RLOBs have multiple photographs, drawings and enhanced historical information. Representative information for both a Sprint and Spartan Missile launch silo is provided to record all of the Spartan (30) and Sprint (70) silos. The SRMSC HAER has been deposited at the Library of Congress, and the North Dakota State Historical Society, where current and future Cold War scholars may have access to this important historical resource.



Although plans to deploy a new system at SRMSC were abandoned the USASMDC has already completed the most stringent mitigation measure that could be performed for the demolition of a historic property with the completion of the HAER for the SRMSC. Future undertakings that may affect historic properties will be considered in consultation with the North Dakota SHPO to determine if additional mitigations may be required. If the SHPO, local historical organizations or other interested parties have an interest in further photo or video recordation at the SRMSC, the USASMDC will make every effort to allow access to properties before the commencement of any alterations to the sites. The granting of access will be subject to the safety, scheduling and security needs of the USASMDC.



**The Remote Launch Operations Building at RSL-2**

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## ACRONYMS AND ABBREVIATIONS

ABM	Anti-Ballistic Missile
ACHP	Advisory Council on Historic Preservation
AD	Anno Domini
AFB	Air Force Base
AFC	American Fur Company
AG	Adjutant General
AHPA	Archaeological and Historic Preservation Act
AR	Army Regulations
ARPA	Archaeological Resources Protection Act
BC	Before Christ
CFR	Code of Federal Regulations
DC	District of Columbia
DCA	Department Consulting Archaeologist
DoD	Department of Defense
DOI	Department of the Interior
EASS	Exclusion Area Sentry Station
EIS	Environmental Impact Statement
EMP	Electro-Magnetic Pulse
GSA	General Services Administrations
HAER	Historic American Engineering Record
HBC	Hudson Bay Company
CRMP	Historic Preservation Plan
ICBM	Intercontinental Ballistic Missile
LASS	Limited Area Sentry Station
MOA	Memorandum of Agreement
MSCB	Missile Site Control Building

MSR	Missile Site Radar
MSRPP	Missile Site Radar Power Plant
NAGPRA	Native American Graves Protection and Repatriation Act
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NR	National Register of Historic Places
NRRSU	Northern Red River Study Unit
NWC	North West Company
PA	Programmatic Agreement
PAR	Perimeter Acquisition Radar
PARB	PAR Building
PARPP	PAR Power Plant
PCB	Polychlorinated Biphenyl
RF	Radio Frequency
RFI	Radio Frequency Interference
RLOB	Remote Launch Operations Building
RSL	Remote Sprint Launch
SHPO	State Historic Preservation Officer
SHSND	State Historical Society of North Dakota
SMW	Strategic Missile Wing
SRMSC	Stanley R. Mickelsen Safeguard Complex
TSE	Tactical Support Equipment
UMB	Universal Missile Building
USASMDC	U.S. Army Space and Missile Defense Command
VAT	Vinyl Asbestos Tile
WHB	Warhead Handling Building
WSE	Weapon System Equipment

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**The Original Installation Sign From the Missile Site Radar  
Approximately 12ft by 20ft in size.**



## **1.1 INTRODUCTION**

As a result of the USSR's successful testing on August 26, 1957 of an Intercontinental Ballistic Missile (ICBM) and subsequent orbiting of the Sputnik I satellite, defense of the United States against ballistic missiles became a national priority. Following a decade of technology development and system tests, a Safeguard Anti-Ballistic Missile (ABM) site was authorized by Congress to be constructed near Nekoma, North Dakota to defend Minuteman ICBMs based near Grand Forks, North Dakota.

During the development and testing of the Safeguard ABM system, significant technological advances were made in such areas as radars, rocket motors, launch vehicle guidance and control, electronics and avionics and computers. The following landmark tests were performed in preparation for Safeguard deployment at SRMSC:

- March 5, 1962 - First ABM simulated mission successfully conducted.
- July 19, 1962 - First successful intercept of an ICBM, first successful ABM intercept in history.
- December 12, 1962 - First salvo launch and multiple intercepts by an ABM system.

Construction of the Stanley R. Mickelsen Safeguard Complex (SRMSC) was an immense undertaking. The SRMSC project was the largest single contract awarded by the U.S. Army Corps of Engineers to that date, resulting in a total project cost of \$468 million. At the peak of construction during the summer and fall of 1972, approximately 3,200 workers were employed. An extraordinary amount of material was used in constructing the SRMSC, to include 714,000 cubic yards of concrete, 27,500 tons of reinforcing steel, and 2,273 miles of wire (not including that required for radars or weaponry).

The SRMSC became operational on October 1, 1975 and was inactivated on February 10, 1976. It was the only operational ABM system ever deployed in the free world. It is generally recognized that its construction and activation were instrumental in successfully negotiating the ABM and Strategic Arms Limitation Talks (SALT) treaties with the Soviet Union. The Perimeter Acquisition Radar (PAR) was leased to the U.S. Air Force in September 1977, and currently remains operational as an early warning and surveillance radar for the North American Air Defense Command and Satellite Surveillance Network. The USAF redesignated the PAR Site as Cavalier Air Station. The remainder of the SRMSC was dismantled and placed in a caretaker status until December 1991, when the United States Army Space and Missile Defense Command (USASMDC) re-acquired accountability for the property in preparation for possible National Missile Defense (NMD) Initial Deployment.

As a result of the important part that SRMSC played in the Cold War victory over the former Soviet Union, and the unique technological and architectural features it includes, USASMDC recognized the fact that certain key facilities in the complex could be potentially eligible for the NR.

Cultural resources from earlier eras of the SRMSC's history, i.e. prehistoric and 19th century Euroamerican settlements, have not been identified on the installation's property. The possibility that traces of those eras could be discovered are slight, because of the extensive ground disturbance which occurred during the construction of the facilities. However, laws and treatment standards which govern pre-Cold War cultural resources are discussed in this Cultural Resource Management Plan (CRMP) in the event that such resources are discovered at the SRMSC. USASMDC has conducted a thorough historical examination and analysis of SRMSC and has prepared a Historic American Engineering Record (HAER) of SRMSC. That study has been accepted by the National Park Service, is included as Appendix F to this document.

The primary purpose of historic preservation planning, which includes the development of CRMPs like this one, is to ensure the preservation of important aspects of our national culture and heritage. The SRMSC CRMP represents the first comprehensive synthesis and planning document prepared to date for SRMSC. The CRMP for land management personnel at the SRMSC, consists of information on:

- The Environmental Setting
- The History of Northeast North Dakota
- Applicable Federal Laws, Regulations and Executive Orders
- Inventory of Historic Properties
- Disturbance Processes & Site Management
- The Planning and Compliance Key (Section 106)
- References

Appendices which provide detailed reference information include:

- The National Historic Preservation Act of 1966, as Amended (full text)
- Army Regulation 200-4 (Historic Preservation)
- Department of the Army Pamphlet 200-4
- Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings
- Cultural Resources Survey of the Cavalier Air Station
- The SRMSC Installation Management Programmatic Agreement
- A Historic Context which will provide the history of the SRMSC and how it relates to the Cold War and ABM development. A comprehensive cultural resources inventory describing all Cold War significant structures and buildings at the SRMSC. These elements will be in the form of HAER study previously prepared for the SRMSC.

## **1.2 THE HISTORIC PRESERVATION PLANNING PROCESS AT THE SRMSC**

The preparation of a CRMP for the SRMSC is mandated by Department of Defense Directive 4710.1 (Archaeological and Historic Resources Management, 1984) and Army Regulation 200-4 (Cultural Resource Management). These documents stipulate that each military installation must maintain a CRMP that:

A. Identifies the likelihood, based on scientific studies, of the presence of significant archaeological and historic properties;

B. Describes the strategies for complying with the National Historic Preservation Act (Public Law 89-665 as amended), the Archaeological and Historic Preservation Act (Public Law 93-291), the Archaeological Resources Protection Act (Public Law 96-950), and Executive Order 11593;

C. Is developed in accordance with local, state, and other appropriate Federal historic preservation programs.

This planning manual has been specifically designed for installation land management and planning personnel, and provides a step by step guide by which cultural resource compliance is to be accomplished. The separate chapters are designed to inform the installation planning staff of the key aspects of cultural resource management. Sound cultural resource management is not only cost effective, but ensures the preservation of important aspects of the heritage of the state of North Dakota and the entire United States of America.

To provide a general framework for subsequent discussions, a brief overview of the environmental setting is presented in Chapter 2 and a history of the SRMSC area is provided in Chapter 3. A review of Federal and Army regulations mandating the cultural

resource management program on the SRMSC is provided in Chapter 4. Reference copies of critical legislation and regulations are included in the Appendices. Chapter 5 identifies historic properties in the SRMSC area and Cold War significant properties on SRMSC installations.

Cultural Resource Planning at the SRMSC will be performed in two independent, but closely related, phases. The first phase, discussed in Chapter 6, will be the accomplishment of routine repair and maintenance activities necessary to stabilize NR eligible properties at the SRMSC. This chapter will begin by discussing the current SRMSC mission and ongoing maintenance/repair activities. This chapter will then discuss facility deterioration threats that are most likely to occur at the SRMSC, and will conclude by establishing routine maintenance, inspection, and repair processes to stabilize NR eligible properties at the SRMSC.

The second phase, discussed in Chapter 7, will be the accomplishment of undertakings in accordance with Section 106 of the NHPA and AR 200-4. This chapter contains a planning key that details step by step procedures to take whenever future projects are likely to impact cultural resources. These steps will outline the method in which management/activity decisions are made and provisions of the relevant rules and regulations are satisfied. These are provided to ensure consistency and technical excellence in future work, and indicate the kind of work and level of effort that should be expected under the compliance process. Chapter 7 will also address unexpected discoveries of cultural resources, and integration of the Section 106 process into the National Environmental Policy Act.

Chapter 8 presents a list of references that were cited in the text.

### **1.3 POINTS OF CONTACT (Contacts referred to in the text)**

North Dakota State Historical Society  
State Historic Preservation Officer  
Department of Cultural Resources  
612 East Boulevard Ave.  
Bismarck, ND 58505  
701-328-2667

Advisory Council on Historic Preservation  
12136 West Bayaud Avenue  
Suite 330  
Lakewood, Colorado 80228  
Phone: (303) 969-5110  
Fax: (303) 969-5115

Departmental Consulting Archaeologist  
Archaeological Assistance Division, National Park Service  
P.O. Box 37127  
Washington, D.C. 20013-7127  
202-343-4101

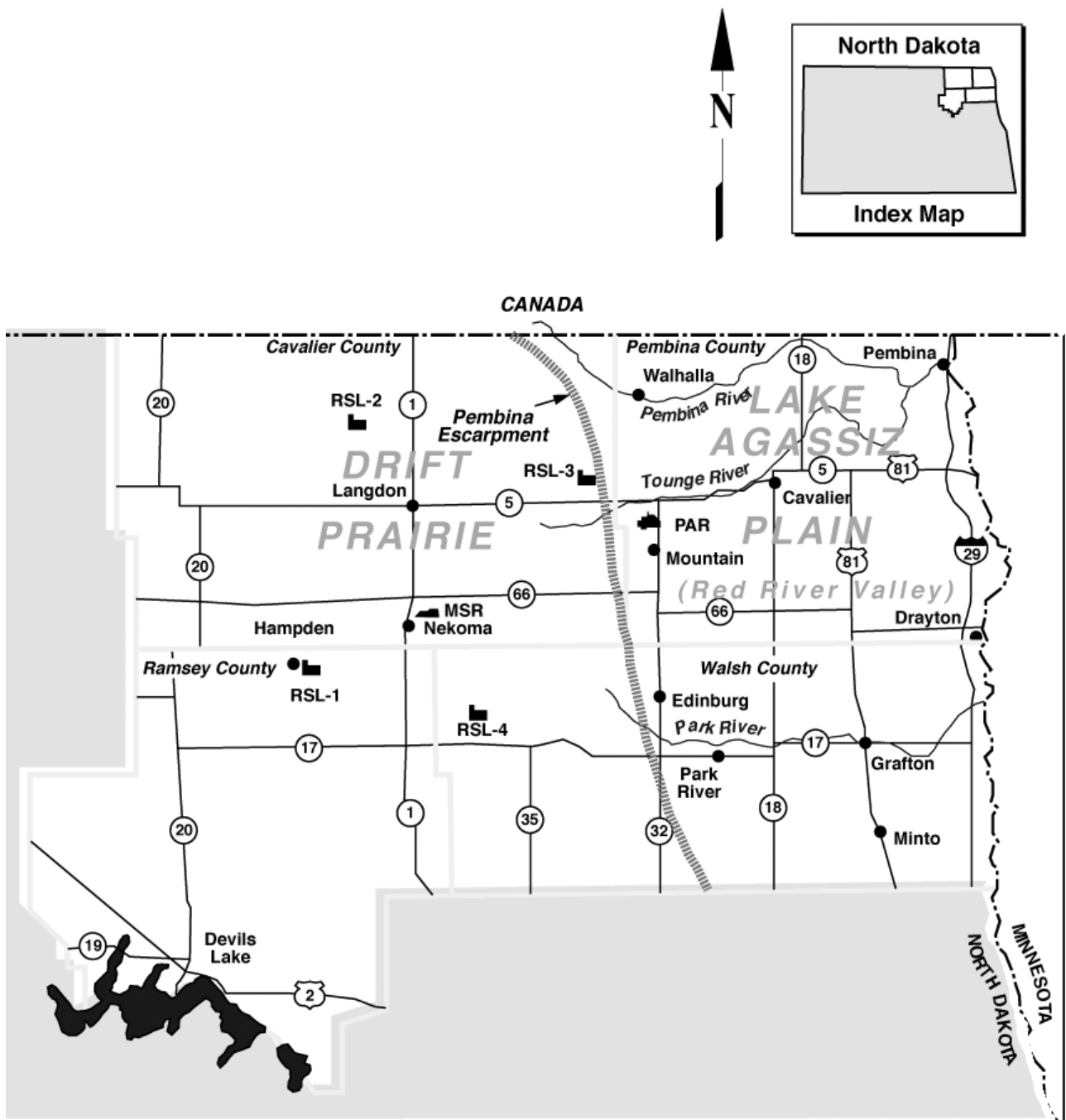
North Dakota Tribal Reinterment Committee  
Turtle Mountain Band of Chippewa  
P.O. Box 1355  
Bellcourt, North Dakota 58316  
701-246-3283

**2.1 DESCRIPTION OF NORTH EAST NORTH DAKOTA****2.1.1 The Land**

The SRMSC lies in northeast North Dakota. Installations that are part of the complex are located in four counties: Pembina, Ramsey, Walsh and Cavalier. The surface of the land in North Dakota is separated into three broad terraces of prairie that rise in elevation about 2500 feet from the eastern to the western border. The SRMSC lies astride two of these prairie areas that are separated by a distinct natural boundary (Figure 2-1). The first is the fertile Red River Valley, which is about 35 miles wide in this area. This is the most eastern and lower of the two (Federal Writer's Project 1950:chap 1). The Red River Valley was formed by Lake Agassiz, a glacial lake that existed 9,000 to years 13,000 ago. It has rich black soil deposits 9.5m to 12.5 meters (30 feet to 40 feet) deep and is considered some of the most fertile farmland in the world (Kuchler 1975). About 10 miles west of Cavalier the land abruptly rises as much as 140 meters (450 feet) along the Pembina Escarpment. This escarpment runs north and south the full width of the state. On top of the escarpment lies the "Drift Prairie" where Glacial activity during the late Wisconsin age (10,000 to 25,000 years ago) formed the surface of the land. The land is marked by glacial features such as moraines, drumlins, eskers, and abandoned melt water channels. The rich soil is only a few feet thick and sand, rock, gravel and large boulders are deposited in glacial "Drifts" where they often protrude from the land's surface. The fertile Drift Prairie is broken up by low ridges, shallow coulees and small ponds (Arndt, 1975).

**2.1.2 Rivers & Lakes**

No major rivers flow through the four county area that contains the SRMSC. The Tongue River is the largest stream which drains the area. Other small creeks and intermittent streams also assist in drainage. All these streams flow to the north and east where they eventually empty into the Red River of the North. The Red River of the North, in turn, is a tributary of Lake Winnipeg and the Nelson River which flow into the Hudson Bay in



**Figure 2-1**  
**Physiographic Provinces of NE North Dakota**



Canada. The SRMSC is in the eastern edge of the Prairie Pothole region which extends across the northern plains of the United States and Canada. This area is characterized by small lakes, ponds and sloughs created by Wisconsin Era glaciation. Although the number of these wetlands were once high, many have been drained in the historic period to allow cultivation (Kantrud et al. 1992).

### **2.1.3 Biological Resources**

Northeastern North Dakota was historically vegetated with tall prairie grass. As a result of extensive cultivation, little of the native grasses and natural prairie remain. Two types of tall grass prairie existed at SRMSC locations. The natural vegetation of eastern Walsh County and all of Pembina County was bluestem prairie, whereas the western area was vegetated by Wheatgrass-bluestem-needlegrass prairie (Kuchler 1975). Land around ponds, sloughs and streams supported several species of trees including poplar, box elder, elm, ash and birch (Encyclopedia Britannia 1967:Vol 16, 618-619).

Northeastern North Dakota continues to support many species of mammals and birds, although several types of large mammals, once common in prehistoric and early historic times, are now rare in this area. Up until the mid nineteenth century, bison, elk, pronghorn antelope, moose, white tail deer, bear and wolves were common (Encyclopedia Britannia 1967:Vol 16, 618-619). Today only white tail deer are abundant. Moose are occasionally encountered, a wolf was sighted near the MSR in 1994, and a coyote was seen on the installation in March of 1995 (Holman, Wheeler, 1995). The transformation of the land into farms and the resultant loss of habitat has made most large mammal species, which were common in the nineteenth century, rare or nonexistent in this area. The numerous ponds and other wetlands support a wide variety of aquatic fur bearing mammals such as beaver and muskrat. These areas also provide seasonal nesting areas for much of the waterfowl that migrate into the southern areas of the United States (Kantrud et al. 1989).

## **2.2 DESCRIPTION OF THE SRMSC**

The facilities that make up the SRMSC are described in detail in the *Historic Context for Cold War Significant Properties at the Stanley R. Mickelsen Safeguard Complex* and the HAER documentation for the SRMSC. This section presents a brief description of these facilities to provide the reader a background for further information in this document. The location of the six SRMSC installations are depicted in Figure 2-2. The physical setting at the SRMSC is dominated by cultivated crops, farmsteads, wetlands, wooded stream banks, municipal skylines (primarily grain elevators and water towers), and radio and microwave towers. The rural landscape is relatively flat, drained by intermittent streams to the Red River. The most prominent natural landscape feature is the rugged terrain along the Pembina Escarpment.

The SRMSC consisted of two phased-array radars, the Missile Site Radar (MSR) and the PAR. Both the MSR and PAR sites were considered small, self-contained communities. The four Remote Sprint Launch (RSL) sites, clustered about the MSR at varying distances, were manned by personnel garrisoned at the MSR. The only component of the Safeguard system left in use after the closure was the PAR, which is leased from the Army by the United States Air Force and is now known as Cavalier Air Station.

### **2.2.1 Missile Site Radar (MSR)**

The total area of the MSR site is 433 acres, and is 102 miles northwest of Grand Forks, and 12 miles south of Langdon, close to the tiny agrarian town of Nekoma (see Figure 2-3). About 25 air miles separate the MSR and PAR sites. This site is atop the Pembina Escarpment in the Drift Prairie. The MSR saw little or no use after closure. A non-tactical portion of the MSR (274 acres) was acquired by the General Services Administration (GSA) in 1977. During the period after closure, the GSA made little provision for maintenance and repair for many of the buildings. As a result of the low maintenance program and the harsh environmental conditions during the winter season, many of the structures were significantly damaged with some becoming irreparable. All

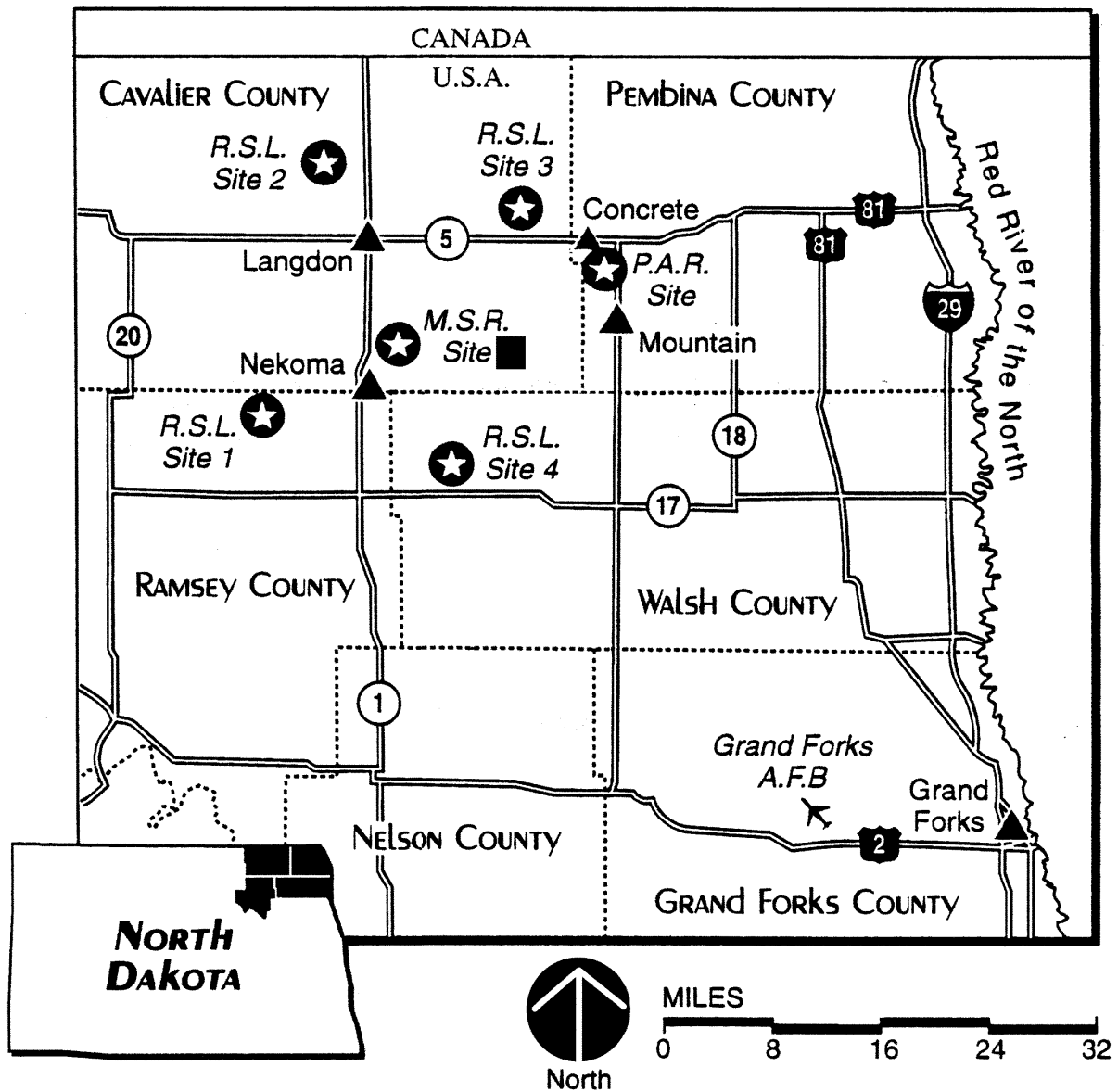


Figure 2-2  
SRMSC Location Map

of the family housing units and many of the other non-tactical buildings have been removed. MSR site facilities included an associated partially-buried, earth-mounded Power Plant (MSRPP), a heat sink, fuel storage tanks, two test towers, the Universal Missile Building (UMB), the Warhead Handling Building (WHB), Sprint and Spartan launch areas, and security stations. Non-tactical buildings included: an industrial building; water storage ponds; waste water stabilization ponds; enlisted men's quarters and dining complex; Bachelor Officers' Quarters complex; a community center; a dispensary; a chapel; a gymnasium; outdoor recreational facilities; family housing; and miscellaneous support structures.

The Missile Site Control Building (MSCB) is the focal point for the MSR and is a landmark which is visible for miles around the complex. "The Pyramid," as it is known locally, was flooded in the years after closure, as a result of seeping groundwater. A salvage effort, shortly after closure, resulted in debris left hanging from walls and ceilings and heaped on the floors. Through a mammoth effort it has subsequently been drained and the vast interior of the structure has been cleared of the tangled debris which had covered its floors. The MSCB has approximately 127,000 square feet of usable floor area, two subterranean main floors, and two above-ground floors which housed Tactical Support Equipment (TSE) and contained the four phased array radar faces for providing hemispheric coverage. The underground building was 231 square feet and 53 feet high. The above-ground exposed antenna was 136 square feet, 79 feet in height and had a sloping angle of 56°.

### **2.2.2 Perimeter Acquisition Radar (PAR) Site**

The PAR site is a 279-acre area that is 90 miles northwest of Grand Forks and 24 miles east of Langdon, North Dakota (see Figure 2-4). The site is located on what was the western shore of Lake Agassiz and is in the shadow of the Pembina Escarpment. The PAR was used to detect, track, and transfer to the MSR, targets at ranges and altitudes suitable for Spartan intercept. It did not plan, select, or guide interceptors. The building contained approximately 167,000 square feet of floor area, of which about half is for Weapon System Equipment (WSE), related shops, and storage areas. The other half is for TSE and related support. Other PAR facilities include the PAR Power Plant (PARPP)





which is partially-buried, and earth-mounded. It is connected to the PAR building by a 130-foot tunnel. Non-tactical facilities included: buried fuel tanks; a heat sink; security stations; water stabilization ponds; a community center; enlisted men's quarters and dining complex; officers' quarters and dining complex; a dispensary; and a gymnasium.

### **2.2.3 Remote Sprint Launch (RSL) Sites**

The four RSL sites, located within 20 miles of the MSCB, were in the general area of the Minuteman missiles which they were to defend. Each occupied from 36 to 45 acres of land. The sites were composed of security stations, heat sinks, fuel storage tanks, waste stabilization ponds, and a Sprint missile launch area containing 12 to 16 launch stations. They also contained a hardened, buried, reinforced-concrete Remote Launch Operations Building (RLOB) - a single-story structure that controlled and monitored the RSL sites as the signals from the MSCB directed. The approximate exterior dimensions were 142 by 80 feet and 17 feet high. The RLOB also had an access tunnel, 11 square feet wide and 90 feet long. The location and the number of launchers for each RSL is:

- |              |  |
|--------------|--|
| <b>RSL-1</b> | 12.2 miles southwest of the MSR and 3 miles east of Hampden<br>12 Launchers;           |
| <b>RSL-2</b> | 8 miles north of Langdon and 20.8 miles north-northwest of the MSR<br>12 Launchers;    |
| <b>RSL-3</b> | At the edge of the Pembina escarpment, 4.4 miles northwest of the PAR<br>16 Launchers; |
| <b>RSL-4</b> | 9 miles southeast of the MSR and 1 mile southwest of Fairdale<br>14 Launchers.         |

RSL 1, 2 and 4 have all received various amounts of dismantlement. RSL-3 is the only RSL which has remained relatively intact in its external appearance since deactivation. See Figures 2-5 and 2-6. Provisions for the dismantlement of RSL 1, 2 and 4 were a part of the 1996 Programmatic Agreement with the North Dakota State Historic Preservation Office.

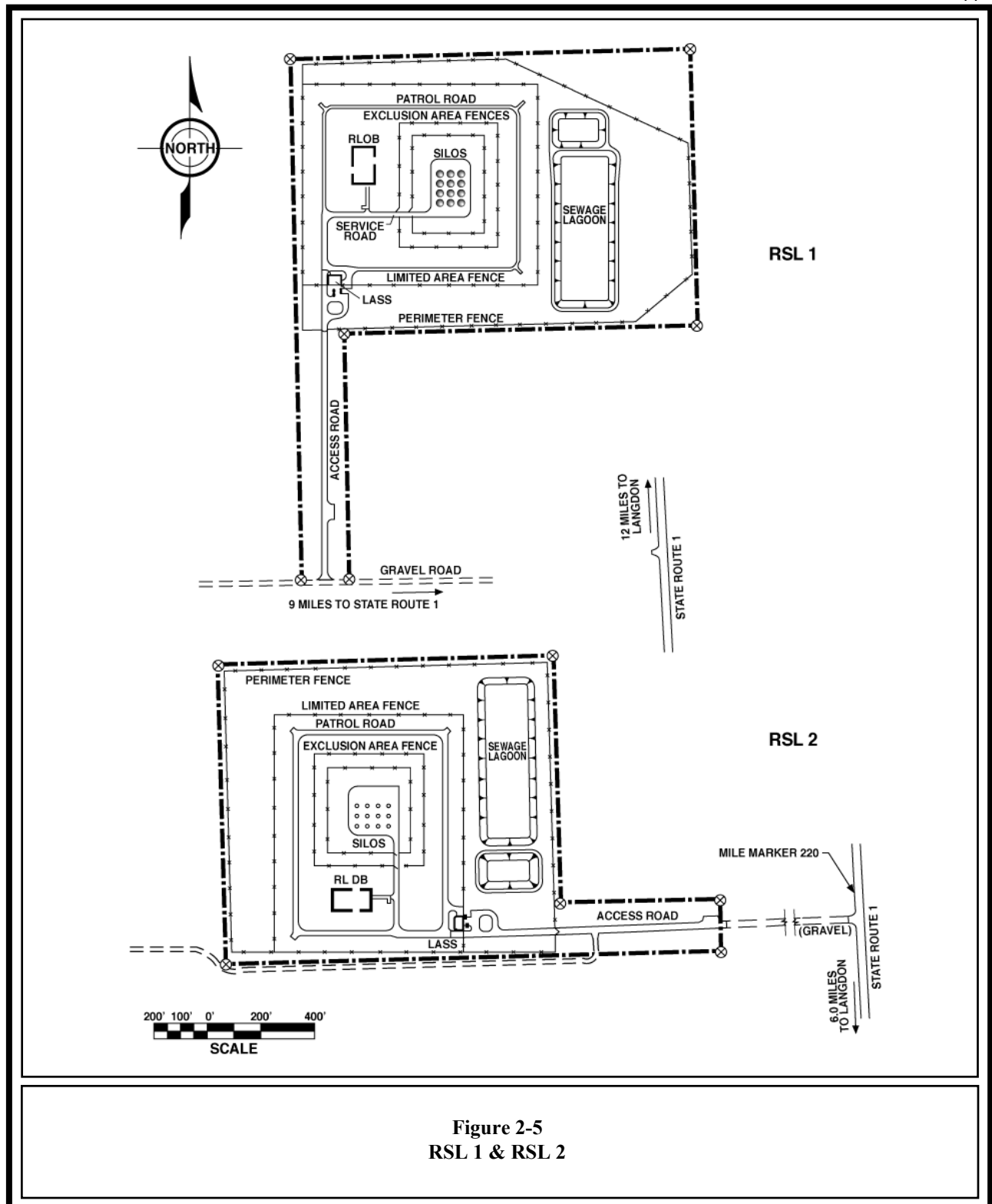
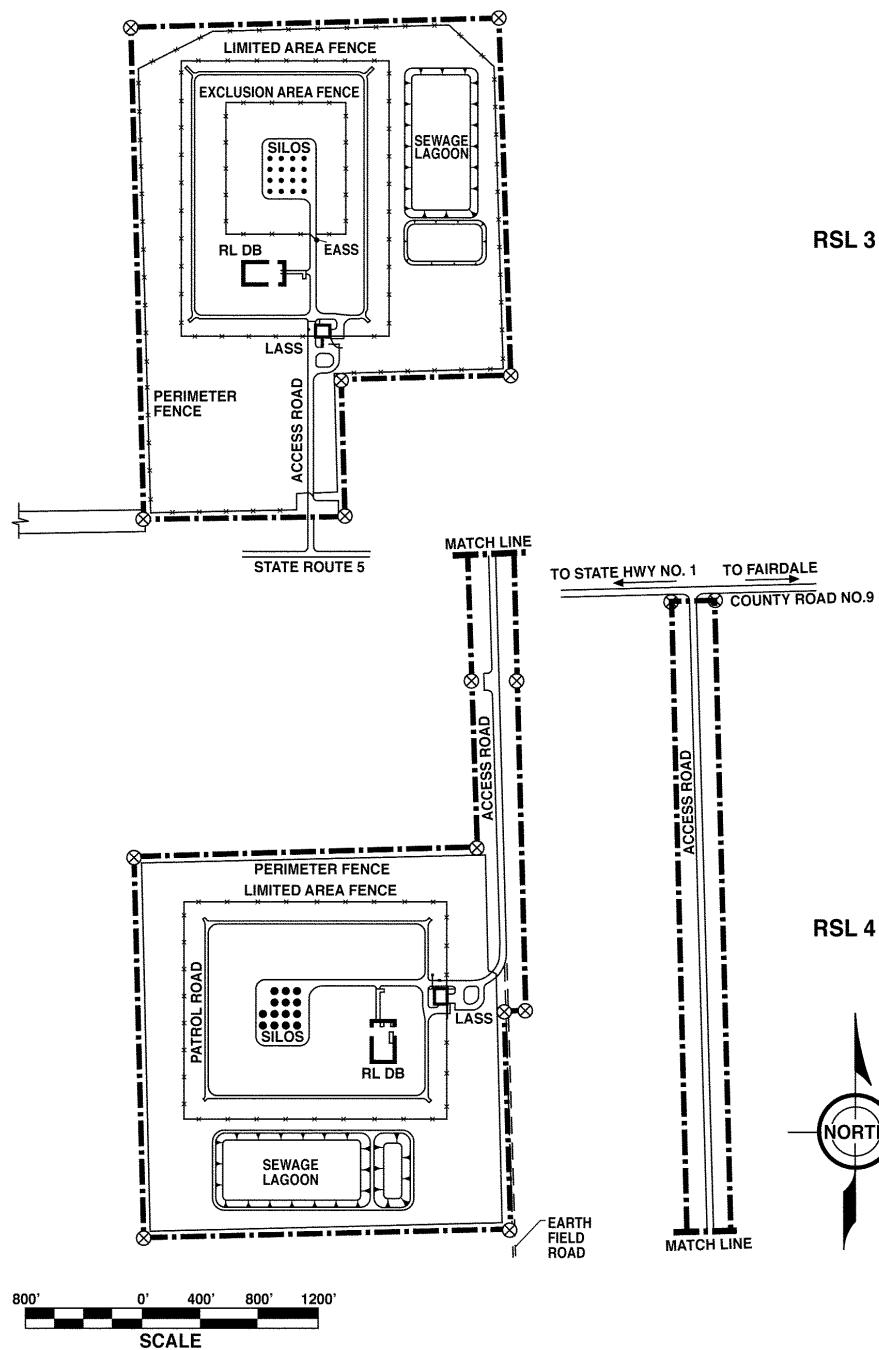


Figure 2-5  
RSL 1 & RSL 2





**Figure 2-6**  
**RSL 3 and RSL 4**



**Inside of the Missile Site Radar Building Radar Face**

## **3.0 CHAPTER THREE      HISTORY OF NORTH EAST NORTH DAKOTA AND THE SRMSC AREA**

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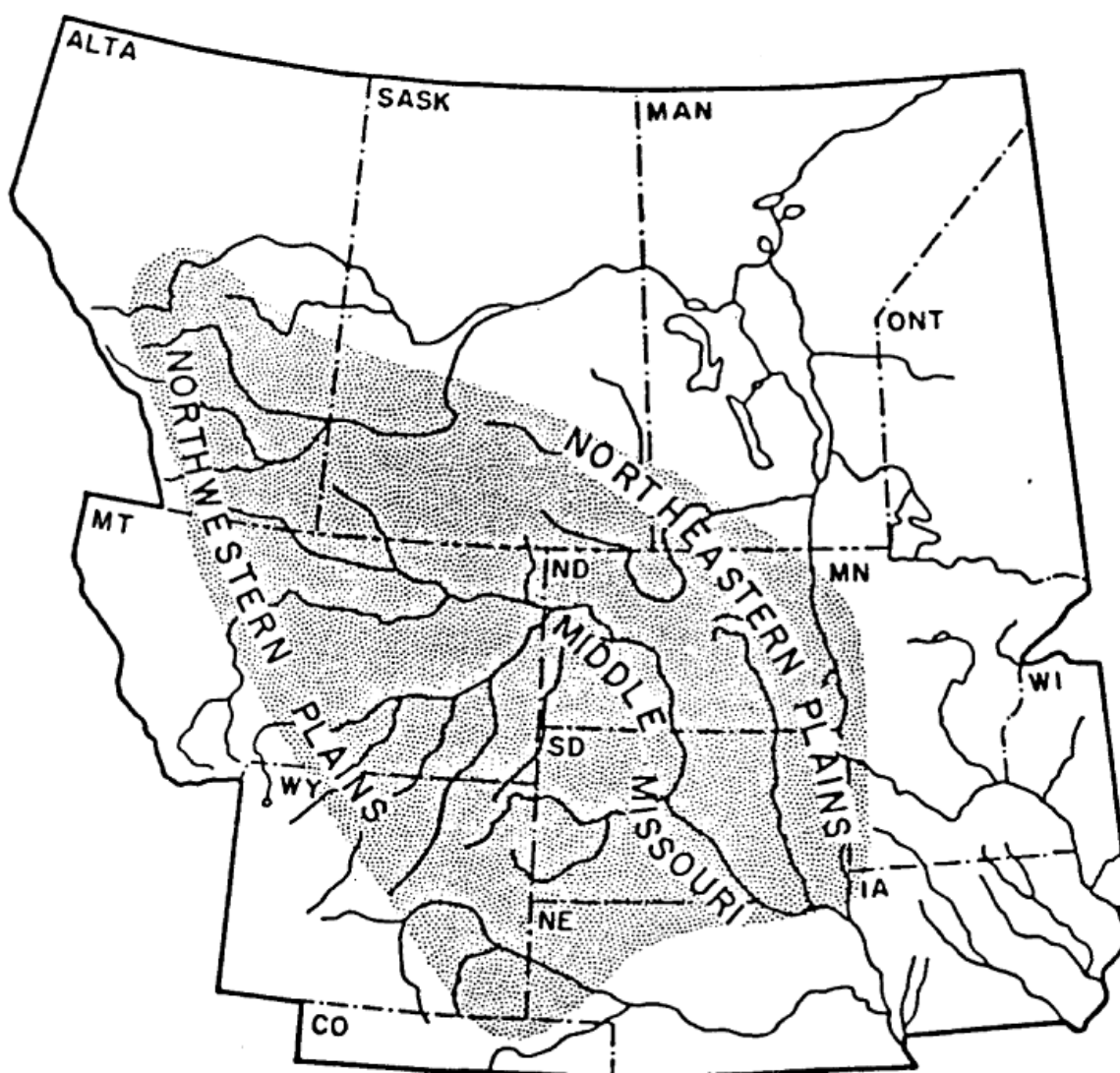
### **3.1 PREHISTORY**

The SRMSC lies within the Northern Plains area as defined in the North Dakota State Comprehensive Plan for Prehistory (Snortland-Coles 1985) (Figure 3-1). The cultural traditions are defined by the adaptive strategies used by the cultural group with the transition between these strategies defining the beginning or end of a particular cultural tradition. For example, the introduction of ceramics are indicative of the transition from the Archaic to the Woodland tradition. The advent of each of these traditions varies throughout the Plains area, depending upon resources, the specific geographical area, and other factors.

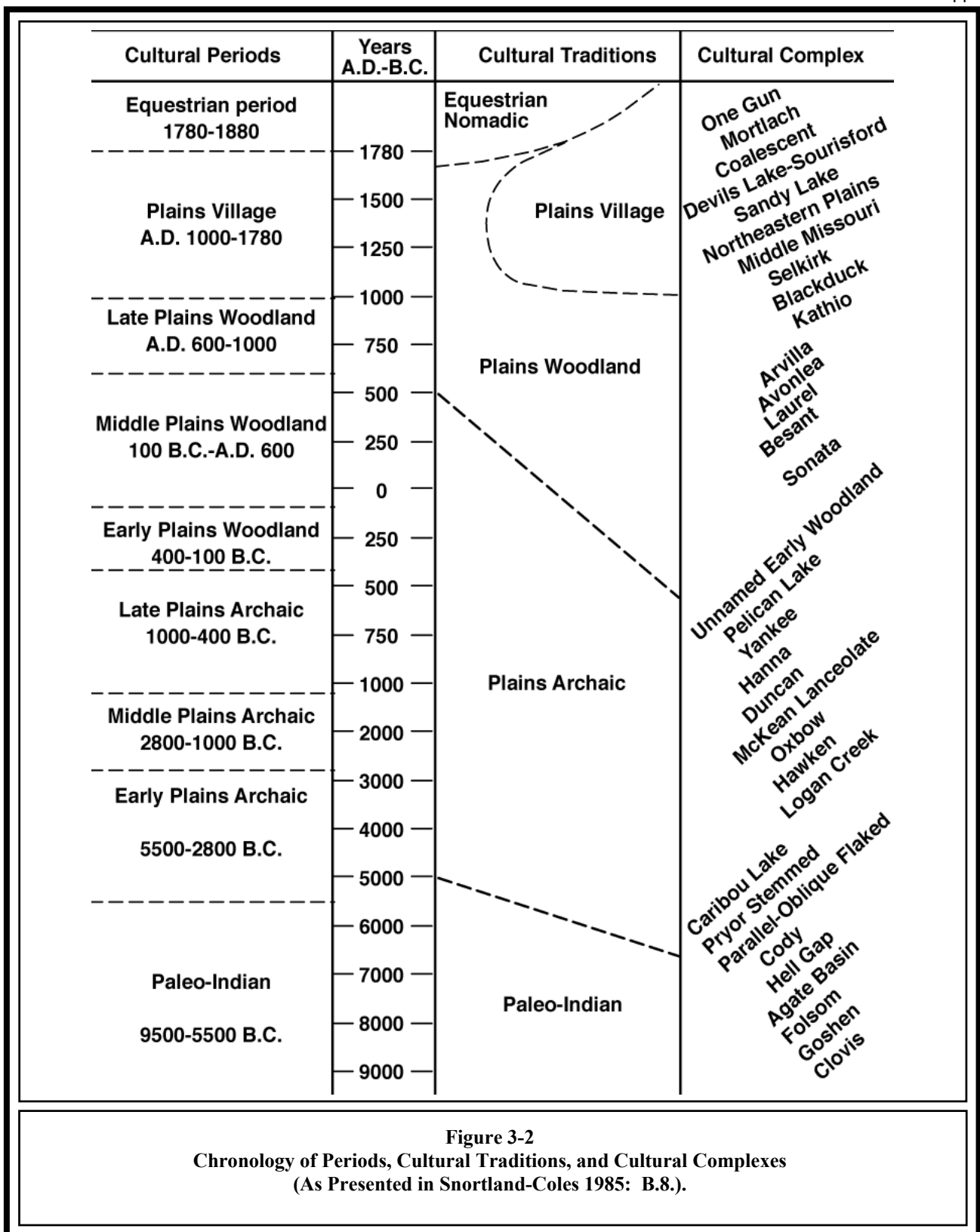
The cultural complexes are defined by similar groups of distinctive materials that have been recovered from numerous areas generally within a given area. These complexes are defined by a distinctive or diagnostic artifact or definable process within a given area and time frame (Figure 3-2).

#### **3.1.1 Paleo-Indian Period**

The Paleo-Indian Period extended from 9,500-5,500 B.C., and principal habitation in the NRRSU would have occurred west of the Pembina Escarpment. East of the escarpment, glacial Lake Agassiz had been formed from the retreat of the Wisconsin ice sheet, and this lake area became habitable towards the end of the period as Lake Agassiz retreated and disappeared. The hunting and gathering lifeways of the period were adapted to the flora and fauna. Ashworth and Cvancara (1983) reported, based on pollen profiles, that as the ice sheet retreated, the area was characterized as a spruce forest mosaic in a tundra-like environment with the prairie replacing the spruce forest by 6,500 B.C.



**Figure 3-1**  
**Archaeological Subareas of the Northern Plains**  
**(As Presented in Snortland-Coles 1985: B.5).**



Early Clovis and Folsom groups probably relied on megafauna such as mammoth, mastodon, camelids, and bison. Plano peoples focused more on herds of bison for food procurement (Frison 1988). The technologies adapted for this environment and lifeways were limited to stone tools. Very few of these distinctive tools have been recovered.

Artifactual evidence from this period is extremely sparse. Clovis, Folsom, and Plano complexes occur or are suspected throughout this area. All materials from this period are from isolated finds in private collections and include Folsom, Agate Basin, Hell Gap, and Browns Valley projectile points. A Clovis point has been noted from an upland setting along the Pembina River, and Caribou Lake artifacts from the Plano Complex have been discovered in the past few years (Snortland-Coles 1985: 9.24, 12.25).

### **3.1.2 Plains Archaic Period**

This period extended from 5,500 to 400 B.C., and is characterized by the adoption of hunting and gathering lifeways to the plains and grasslands which had flora and fauna essentially the same as those found today. The period is subdivided into Early, Middle, and Late, based on stylistic changes in lithic tools. Three principal cultural changes define the period: 1) regionalization in projectile point styles, 2) decline in the quality of flintknapping craftsmanship, and 3) reduction in the degree and extent of interaction between human populations in different archaeological areas and subareas (Snortland-Coles 1985:B.23).

This period is subdivided into seven complexes, of which evidence of five has been noted in the SRMSC region. These include: from the Early Plains Archaic the Early Oxbow Lake complex; from the Middle Plains Archaic, the McKean, Duncan and Hanna complexes; and from the Late Plains Archaic, the Pelican Lake complex. Few investigations have been conducted on sites from the Plains Archaic Period, and at least one of the sites that has multiple components is not conclusive in defining the complexes. Little evidence has been recovered that defines the subsistence strategies pertaining to food procurement. Two sites dating 3,850 B.C. (32GF123) and a site dating 2,000 years later (21NR9) both show a dependence on bison as a key resource. Floral utilization in the diet of the period is undetermined (Snortland-Coles 1985: 9.29).

### **3.1.3 Plains Woodland Period**

The Plains Woodland Period began around 400 B.C. and continued until European contact in the 17th century. The period is divided into Early, Middle, and Late periods and is marked by the production and use of ceramics, mound burials, and possibly an increased utilization of plants and grasses as food resources.

The components of the Early Woodland Period are very rare in the study area and in eastern North Dakota in general. As a result, the components of this Early Period remain unnamed and unclassified. The earliest evidence from this period comes from the remains of a burned structure dating to 550-410 B.C. at the Naze Site (Gregg 1987). This site is located along the James River to the south and west of the SRMSC area. The ceramics from the Naze Site are considered to most closely resemble the Midwestern "Black Sand Tradition" both stylistically and technologically. The projectile points from this site were small corner notched forms which are classifiable as Pelican Lake along with a large Besant side-notched form. The Sonota/Besant complex is proposed to have developed in the Northeastern Plains from the Early Plains Woodland cultural base that is represented at the Naze site, then spread westward to the northern parts of the Middle Missouri subarea and then to the Northwestern Plains (Snortland-Coles 1985:B.29).

The Middle Plains Woodland Period marks the beginning of several cultural changes including mound burial mortuary practices. Also during this period, the bow and arrow became the principal weapon replacing the atlatl. Interaction between groups is believed to have expanded based on the recovery of diagnostic lithic materials. Artifacts fabricated from Knife River flint have been recovered from a site in Iowa (Benn 1983) and obsidian has been noted as having been exchanged over wide areas during this period (Anderson et. al. 1986; Griffin et. al. 1969). Gardening practices began during this period and may have advanced from the interactions evidenced in the transport of lithic materials.

Two of the complexes recognized for the Middle Plains Woodland period are the Sonota and Besant Complexes. There is continuing debate as to the differentiation between the two complexes. These complexes, along with the Laurel and Avonlea, coexisted from ca. A.D. 200 to 600 (Snortland-Coles 1985:B.30).

During this period a trend towards larger projectile points has been noted in the Besant and Samantha large corner notched projectile points. These evaluations or trends may be associated with several climatic changes that occurred during the Middle and Late Plains Woodland periods. Other artifacts that have been recovered from sites of the period including obsidian, copper, marine shells, and exotic stones, indicate a regional influence from the Hopewell Interaction Sphere.

The Laurel Complex from this period has not been clearly defined in eastern North Dakota, but it is defined as its western limit and this complex may be noted as further investigations are undertaken.

The Late Plains Woodland Period is difficult to differentiate from the Middle period and the transitional period from ca. A.D. 600-900 has been grouped as the Arvilla Complex. Within the Late Period most of the components are associated with the Sandy Lake culture and to a lesser degree to the Blackduck.

During the early portion of the Late Plains Woodland Period, linear burial mounds are noted as beginning as early as A.D. 500 or 600. The predominance of linear mounds are found in the eastern third of the State (Snortland-Coles 1985:B.31). A review of the site files suggests that either the majority of the mounds are in the southeastern portion of the State or that little investigation or recording of mounds has occurred in the northeastern portion of the State. It has been noted that earlier conical mounds continued to be used into the Late Woodland period (Snortland-Coles 1985).

There are five Late Plains Woodland ceramic wares that have been identified in excavations in the State. These wares signal the presence of the Avonlea, Blackduck, Mortlach, Old Women's and Sandy Lake complexes. All but the Avonlea complex fall within the Plains Village period beginning around A.D. 1000. This discrepancy is accounted for by the persistence of the Woodland lifeways until the time of the Plains Village tradition (Snortland-Coles 1985:B.31). The late prehistoric Middle Dakota or Yanktonai appear to have lived traditional Woodland lifeways until this contact time (Howard 1966:11). The predominant culture after A.D. 1000 was the Plains Village tradition with only remnant Woodland traditions persisting.



The Avonlea ceramic vessels have a temporal range from A.D. 600 to 700 and were produced using both lump modeling and coiling techniques (Fraley and Johnson 1981:14). The vessels forms were both conoidal and globular with the conoidal believed to be the earlier preferred form. Exterior surface treatments included fabric impressed, net impressed, cordmarked, smoothed, or parallel grooved (Snortland-Coles 1985:B.32).

#### **3.1.4 Plains Village Period**

This period is defined by a tradition of horticultural-hunter-gather lifeways. This culture dominated from A.D. 1000 until 1780 when increased European contact brought diseases that decimated the populations and a transition to the Equestrian Period occurred (Snortland-Coles 1985:B.35).

The transition to the Plains Village strategy was the result of the dependable storage of surplus food primarily in the form of dried corn (Lovick and Ahler 1982:55). This ability to maintain a food surplus led to the formation of larger populations, more stable, less transient lifeways and the beginnings of village communities. This lifeway is evidenced in the first utilization of fortifications for villages.

The origin of the tradition is a matter of debate with two theories: the lifeways are the result of a migration from the east (Toom 1992:137), or a development and adaptation of indigenous people to a horticultural lifestyle (Alex 1981; Ahler and Mehrer 1984; Gregg and Picha 1988; Tiffany 1983).

The applicable tradition to the study area is the Northeastern Plains Village Complex that coincides with a climatic shift to a warmer and moister climate than we have today. This climatic shift facilitated an increase in biomass, an expansion of corn gardening, and consequently, to a more stable or sedentary lifestyle. The complex is characterized by diagnostic ceramics, high frequencies of Knife River Flint, regular occurrence of catlinite artifacts, semi-sedentary village settlements, earthen mound mortuary features, and Devil's Lake-Sourisford mortuary goods.

The ceramics were generally small to medium sized, thin walled, globular with an out-curved rim and decorated on the shoulder. The Devils Lake-Sourisford artifacts encompass a group of exotic artifacts including marine shells, copper beads, and items from ores recovered in the Great Lakes region. Artifacts made from soft, easily carved catlinite, including tubular pipes and engraved tablets, have their origin from southwestern Minnesota and are included in this assemblage.

### **3.1.5 Equestrian Period**

This period is defined by the introduction of the horse and the appearance of Euro-American trade goods. The earliest appearance of horses is thought to have occurred in the mid-1700's with a large enough population developing by the later 1700's or early 19th century to make a dominant cultural/behavioral change. The date assigned to the beginning of the period is 1780, with the conclusion of the period demarcated in 1880 by the dominance of the Euro-American culture through migration and homesteading, and the decline of the principal food source - the bison.

The earliest source of Euro-American trade goods was from the fur trade, both French-Canadian and British. Among these goods that caused cultural change were metal items that replaced ceramic pots and stone tools. Perhaps the most significant item was the gun. Its introduction had a dramatic effect on food procurement, defense, and cultural interaction.

The cultural effects of the introduction of the horse, which included allowing greater amounts of cultural items to be transported and larger amounts of food to be carried over greater distances, substantially changed the lifeways of these groups.

Among the cultural groups affected by these introductions were the Dakota (both Yankton and Yanktonai), Ojibwa (Chippewa), Plains Ojibwa, and Assiniboine. In addition to these groups, there were the Plains Cree and Métis ("mixed blood") and, there were the Ottawa and Sheyenne groups.

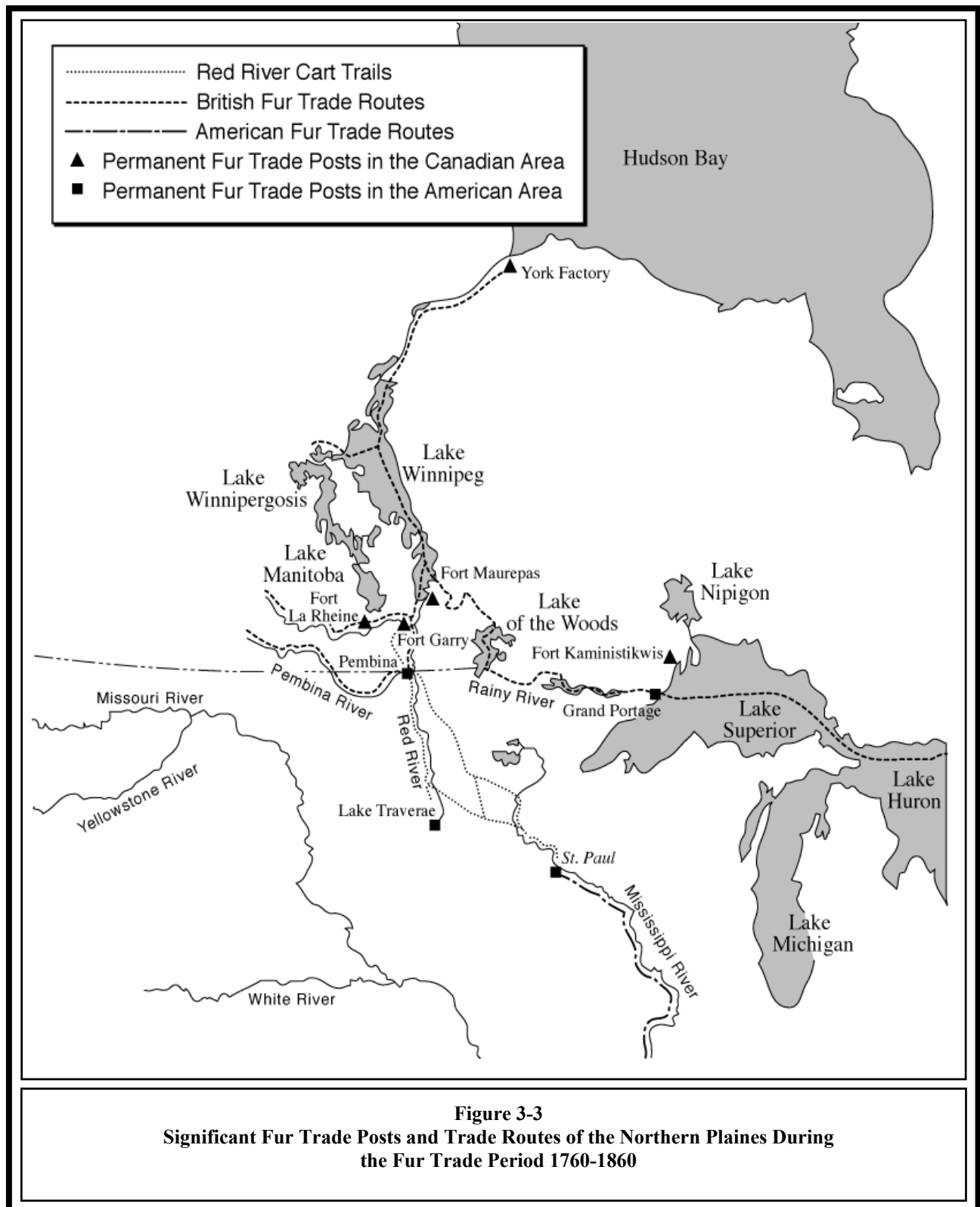
It is thought that, during the earlier portions of this period, the principal organized group was at the "band" level which primarily constituted a family group, or if food supplies were sufficient, several families. The growth of the social group to the "tribal" level is suggested to have been caused by the migration of other populations from the east causing greater competition and therefore the impetus to coalesce into the more complex tribal groups (Reher and Frison 1980:139).

## **3.2 HISTORIC PERIOD**

### **3.2.1 Euroamerican Exploration and the Fur Trade**

The early exploration and exploitation of northeastern North Dakota was directly tied to events which were occurring in the lower reaches of the Red River Valley in Canada. French and French-Canadian fur traders established trading posts along the Red River and its tributaries in what is now Manitoba (Figure 3-3). These traders had a charter from the French crown to conduct business with the condition that they also explore and collect information about the region in which they traded. Pierre Gaultier de Varennes, Sieur de la Verendrye was the first to establish a permanent trading post in the Red River region. La Verendrye and his nephew, La Jemeraye, built their first trading post at Rainey Lake in the fall of 1731 (Ritterbush, 1991:22). In the next seven years, La Verendrye established several other posts at progressively more southern locations along the Red River and its tributaries. La Verendrye was also the first explorer to find the water route from the Red River to Hudson Bay (Murray, 1967:16). In 1738 the trader left his post to begin an exploratory expedition to the Missouri River. He, along with his sons and employees, crossed through the SRMSC area and became the first Euroamerican to set foot in what is now North Dakota (Ritterbush, 1991:22).

French fur trading in the area of the Red River declined tremendously beginning about 1740. This was due primarily to French preoccupation with a series of wars in Europe, and the French and Indian War against Great Britain in North America, which ended in 1763. During this period some trading continued, but on a limited scale, and was conducted by independent French and English traders. Great Britain's victory over the



French resulted in all of Canada falling into English hands. Within five years of the end of the war, English and American traders were establishing themselves in the Red River region. Like their French predecessors, these traders first exploited the lower Canadian stretch of the Red River and its tributaries. Posts were built at the “Forks” of the Red River, on the Assiniboine River, the Rat River and Netly Creek (Ritterbush, 1991:chap IV).

It was not until the early 1790s that the first Euroamerican constructed a trading post in what is now North Dakota. (The concept of an American - Canadian border, however, was unknown at this time.) Peter Grant, of the North West Company (NWC), established this post at the confluence of the Pembina River and Red River and opened a brisk trade with Native American trappers. Peter Grant, along with several other traders in the area west of the Great Lakes, had helped form the NWC at Montreal in 1787. The NWC monopoly as the only large scale trader in the Red River region was short lived. The Hudson Bay Company (HBC), which had remained content with profits from the bay area for decades, moved into the Red River region and established trading posts almost side by side with NWC establishments. Pembina was no exception (Ritterbush 1991: chap IV; Murray, 1967:chap I).

Traveling up the Red River in the fall of 1800, Alexander Henry with his employees and a party of Ojibwa Indians, established a post at the mouth of the Park River in what is now Walsh County. From there he ranged throughout the area trading with the Ojibwa, Ottawa, Cree and Assiniboine who all hunted that territory. Henry traded for a while at the Hair Hills where the Park River flows from the Pembina Escarpment. (This temporary post would have been near where Walsh, Cavalier and Pembina Counties join today.) Although Henry returned to Pembina, he continued to establish temporary posts in this area for the next eight years (Ritterbush, 1991:26-27).

The Red River Valley and Drift Prairie, in what was to become northeastern North Dakota, were rich with wildlife and natural products that were desired by European consumers. The Pot Hole country on the Drift Prairie was particularly rich with fur bearing mammals that thrived in or near an aquatic environment. The Native Americans who hunted in this area took full advantage of the natural resources the environment offered. The trappers took a wide variety of skins and products to be traded. These

included: beavers, muskrats, bear, fisher, foxes, wolves, martins, raccoons, otters, wolverines, skunks, lynxes, badgers, ermine, mink, rabbits, moose, buffalo, swan skins, feathers, quills, and castoreum (dried perineal glands of the beaver used by perfumers). Traders also bartered for meat, pemmican, sugar, vegetables and nuts which were required for their own subsistence. By far, the most prized commodity was beaver pelts (Ritterbush, 1991:27). Hatters in the old world used the fur from these pelts to make felt for almost every form of wide brimmed hat.

Native Americans traded these items for a wide range of manufactured goods, and eventually altered their culture as they became reliant on these European products. The Cree, Chippewa, and Sioux remained reliant on traditional hunting and gathering to feed themselves, but they often altered their seasonal migrations to allow time for the trapping which provided the trade goods they desired (Murray, 1967:13). To lure the natives into providing pelts, traders often gave a “gift” of trade goods to visiting hunters that would ensure that they would return with furs. Charles Chaboillez, a NWC trader at Pembina, recorded in his journal during the 1797-1798 season that he gave to each visiting hunter:

1 measure powder	1/2 to 1 fathom tobacco
1 measure shot	1 to 3 awls
1 measure balls	2 to 3 skeins thread
1 gunworm	2 needles
2 to 4 gun flints	1 fire steel
1 large knife	a little vermilion
1 small knife	5 pints mixed rum (Hickerson 1956:273).

Influential Indians or chiefs were often given elaborate European style clothing in addition to the items mentioned above (Gough 1988:26-27). Chaboillez recorded in his journal during the 1797 season that his goods for normal trade included:

17 bales dry goods	4 bales carrot tobacco
1 trunk sundries	5 rolls spencer twist tobacco
4 cases iron works	1 bale copper kettles
6 kegs powder	1 bale tin kettles
5 bags balls	1 bale beaver traps
6 bags shot	30 kegs high (unmixed) wines
2 cases guns	1 (keg) maccaron rum (Hickerson 1956:273).

Competition was fierce between the NWC and the HBC. These two companies, and sometimes smaller ones, vied for the native hunter's products and often went to great lengths to gain the patronage of the Indians. Traders would often send their employees into the hinterland in an effort to intercept the Indians and their goods before they could reach competitors. At the height of this competition, traders from all companies dropped their trade prices tremendously in an effort to undersell their neighbors. This led one trader to recall:

“The XY (company) had always been lavish of their property, selling very cheap and we on our part to keep the trade in our own hands we were under the necessity of following their examples. Thus by our obstinate proceedings we had spoilt the Indians, made them worse than they ever were before. Every man who killed a few skins was considered a chief and treated accordingly. There was not scarcely a commoner to be seen. All wore scarlet coats, had large kegs or flasks, and nothing was purchased by them but silver works, strouds and blankets. Every other article of trade was either given out on debt and never paid, or given when asked for” (Gough, 1988:167-168).

This level of competition continued until the various companies began to buy out smaller rivals. All competition ceased in 1821 when the NWC was absorbed by the HBC (Murray, 1967:17).

The Red River, flowing north, was the only source of transportation for the arrival of European goods and the removal of furs. The Red River emptied into Lake Winnipeg which drained into Hudson Bay through the Nelson River. To travel to Montreal, traders could turn east in Lake Winnipeg and use a water/portage route to connect with Lake Superior. After accessing the Great Lakes, water routes provided easy travel all the way to Montreal. Because of this flow of trade, Pembina and other posts in the Red River maintained a British and Canadian character, as very little American influence was spreading from settlements east of the Mississippi River (Ritterbush 1991: chap IV).

### **3.2.2 The Buffalo Hunters**

Traders sometimes hired freemen to perform routine activities, such as hunting, cutting wood, gardening, and other chores that were required for the survival of the post.

Freemen were Euroamericans who had previously been employed by one of the various trading companies. After their contracts expired, or their jobs were lost due to mergers between companies, many opted to remain in the territory instead of returning east. The number of freemen increased dramatically after 1805 when several of the smaller trading companies merged. As many of these people began to congregate near Pembina in 1807, Alexander Henry complained:

“This season we were troubled by an augmentation of Freemen from Canada etc. Their total numbers now in this river amounts to forty five men. More worthless fellows could not be found in the North West” (Gough, 1988:298).

These freemen invariably took Indian wives and started families. The result was the creation of a new ethnic group, the Métis (Sherman, 1983:105; Ritterbush 1991:chap IV).

The Métis were usually descended from French speaking whites and Algonquin speaking Native Americans. The offspring from these unions adopted cultural traits from both parents, but tended to marry other Métis, thus increasing and isolating them as a separate group. By the 1790s, a new ethnic group had evolved which was a unique blend of both cultures (Murray, 1967:22). By the mid nineteenth century, the Métis were the largest ethnic group in the Red River Valley. Métis communities, at first, were scattered and were usually located near trading posts along the Red River from Pembina north into Manitoba. As the fur trade began to decline in the 1820s and 1830s, and Scottish and English settlers began to colonize the Canadian portion of the Red River Valley, large groups of the Métis began to congregate in semi-permanent settlements along the south shore of the Pembina River. There they could be near the buffalo hunting areas in what is now Pembina, Cavalier and Walsh Counties (Sherman, 1983:106; Murray, 1967:17).

The Métis, like their freemen forbearers, had established an economic niche for themselves by providing food for trading post employees. This was further expanded after the HBC began to establish farming communities in Manitoba. These farms, colonized with Scottish, English and sometimes Swiss immigrants, were seldom self sufficient. HBC leaders turned to the growing Métis communities to provide for the settlers. Buffalo meat, pemmican and vegetables were the primary products sold to the HBC for this purpose (Pemmican was a Native American process where dried buffalo meat was pounded into bits, along with berries and seeds. It was then placed into skins and hot



buffalo grease was poured into it as a preservative. It was the staple meat product during winter months [Murray 1967:17]). Many Métis had previously relied on fur trapping to supplement their income. As the fur trade was declining, the need for buffalo hunting increased and thus provided employment for many people who would have suffered otherwise (Ritterbush 1991:chap IV; Murray 1967:chap I).

The culture of the Métis began to revolve around the buffalo hunt and the sale of provisions to Euroamerican settlers. An economy system known as the “Red River Hunt” emerged that would dominate life in northeastern North Dakota from the 1820s ( when the fur trade began its decline) until the influx of agrarian settlers in the 1870s. The Métis would venture from their settlements two times a year on buffalo hunts that lasted up to 45 days. The products from the hunt would be transported back home in ox drawn two wheel carts where most of the meat would be processed into pemmican. The meat, pemmican, skins and produce grown in small gardens were transported in carts to customers. Stephen Long, who arrived in Pembina with a party of surveyors to mark the international boundary in 1823 remarked in his journal about the arrival of a Métis hunting party:

“At the time when we arrived at the colony, most of the settlers had gone from home, taking with them their families, horses etc. They were chasing the buffalo in the prairies, and had been absent forty five days without being heard from. The settlement was in the greatest need of provisions; fortunately for us, who were likewise destitute, they arrived the next day....The procession consisted of one hundred and fifteen carts, each loaded with about eight hundred pounds of the finest buffalo meat; there were three hundred persons, including women. The number of their horses,...was not under two hundred. Twenty hunters, rode in abreast; having heard of our arrival, they fired a salute as they passed our camp” (Keating, 1959:39-40).

By 1844 a new trade company, the American Fur Company (AFC), had established itself on the United States side of the international border. This company controlled what remained of the fur trade in the upper Red River Valley. The most important change that the new company brought to the region was the direction of trade. The AFC established an overland route to St. Paul, Minnesota, where goods could be transported on the Mississippi River. This opened new markets for regional products and extended trade to anywhere on the Mississippi or its tributaries. Conversely, consumer goods from any of these markets could access the Red River region. The AFC sent more than furs to St. Paul. The company also sent buffalo robes, tallow, dried meat, leather, horses, cattle,

trinkets, and some farm produce. The AFC paid almost twice as much for regional products as did the HBC, and goods coming from the United States were cheaper than those from Great Britain. These economic incentives did much more to establish a border between the two countries than the surveyors ever did. By 1851, the company was sending 100 carts of goods each summer from Pembina to St. Paul on the overland trail. By the time that Minnesota gained statehood in 1858, six hundred carts made the trip from Pembina to St. Paul annually. The Métis and their “Red River Hunt” provided the bulk of these exported products (Murray, 1967:17-18; Ritterbush 1991:41).

By the early 1850s, the United States government was becoming aware of the increased trade from the Red River region to St. Paul, and realized that many of the products coming from Pembina originated in Canada. As a result, Charles Cavaleer was sent to Pembina to open a customs house to collect duties on products coming across the international border. (Although the spelling has been changed, the town and county of Cavalier are named for Charles Cavaleer). By 1853, a transit duty had also been established on English goods being transported through the United States to Canadian settlements north of Pembina. Transportation routes through the United States were, by this time, faster than the use of the Hudson Bay and the Red River route. Pembina became a vital port of entry into Canada for the remainder of the nineteenth century (Ritterbush 1991:41-42).

### **3.2.3 The Coming of the Railroad**

By the middle of the nineteenth century the area south of the international border, which was established in 1823, had developed an American character more in common with Minnesota than settlements in the Canadian portion of the Red River Valley. Through the 1860s, ox cart caravans were the mainstay of commerce between the Red River region and St. Paul. This began to change when the Northern Pacific Railway finished a line from Duluth on Lake Superior to Moorehead on the Red River. At Moorehead, steamboats picked up goods for shipment to Pembina and Winnipeg or unloaded products from the Red River region. This railroad connection provided access to the Great Lakes and water routes to the eastern United States. The steamboats flourished on the Red River and largely supplanted the ox cart as the prime source of commercial transportation. The steamboats left much to be desired, however. The low waters of the Red River demanded

the use of shallow draft vessels with small cargo capacities, and during winter ice prohibited all movement. This encouraged the completion of a rail line along the eastern bank of the Red River all the way to St. Vincent which is across the river from Pembina. When this line was connected to a Canadian built railroad from Winnipeg in 1878, the entire Minnesota side of the Red River Valley was serviced by rail (Murray 1967:chap III).

The rail line to St. Vincent proved so profitable that lines on the west bank of the Red River were soon under construction. By 1882, a line connected St. Paul with Fargo and continued to Neche on the Canadian border. This was the first railroad which passed through the SRMSC area. Lines were also built from Wahpeton, near the South Dakota border, to Park City and from Grand Forks to Devils Lake. These lines influenced the development of the region as an agricultural area. The railroads did more than provide transportation. They also encouraged settlement, land surveys, establishment of civil government, commercial wheat farming and diversified agriculture (Murray, 1967:chap V).

The United States government encouraged the building of rail lines by offering large tracts of land to the railroads. This land, which usually consisted of an area ten miles wide on either side of the proposed right of way, was sold at five to six dollars an acre to settlers to finance the construction of the rail line. The railroads induced settlers to come to the region by offering free rail fare, temporary lodging, credit arrangements and cash discounts for farmers who purchased forty acres or more of land. Often multi-language pamphlets were distributed in the United States and abroad to recruit settlers of foreign birth. These pamphlets often contained elaborate and sometimes misleading prose designed to entice perspective immigrants. The St. Paul, Minneapolis and Manitoba Railroad published this description of North Dakota's climate in 1883 to rest the apprehensions of those who feared the cold winters:

“Its climate unites all that is bracing and invigorating...People who have come here to die of bronchitis and consumption have lived to become glowing embodiments of soundness and strength, with throats like firemen's trumpets and lungs like a blacksmith's bellows. The howling blizzards blow all miasma and contagion from Dakota's favored plains and valleys and breathe new life and joy forever, with never a night when a blanket is not comfortable; and the cold of sharpest winter is less piercing than the average December or January

weather of Arkansas or Virginia. It is dry, crisp, sparkling cold that stimulates and invigorates” (Murray, 1967:123).

Settlers who had spent a winter on the plains would probably laugh at that account and at this description of the average North Dakota farmer:

“The Dakota bonanza farmer dresses in the latest New York or Chicago style and wears a diamond shirt stud. His kid gloves fit daintily and hem-stitched handkerchief is redolent with the fragrance of white rose or new-mown hay...They come to the scene of their rural labors, these pioneers of the new regime, in a palace car, reading Longfellow on ‘The Land of the Dacotahs’, and wearing traveling costumes that tell of jaunts to New Port, Long Branch or Saratoga...They bring with them all the refinement and elegance of metropolitan and cosmopolitan life, and carry the air of the court to the harvest field and barn yard” (Murray, 1967:122).

### **3.2.4 The Settlers**

North Dakota is remarkable in the diversity of the origins of its inhabitants. This is even more evident in the four northeastern counties of the state. The railroad land grants made much of the land in the SRMSC area available to settlers, but the biggest lure to the area was the Homestead Act of 1862. This public law provided that:

“any citizen or alien who had declared the intention of becoming a citizen, if 21 years old, or the head of a family, or a veteran of at least 14 days service in the armed forces of the United States during an actual war, and if he or she never engaged in war against the United States or assisted in such war (this clause excluded Confederates or ex-Confederates), on payment of \$10 might file claim to not more than 160 acres of surveyed public domain. After having resided upon or cultivated this land for five years, and by then a citizen, the settler could receive a patent on payment of additional fees. This homestead could not be seized by any creditor to satisfy any debts previously contracted”(Encyclopedia Britannica 1967:Vol 11, 645).

The Homestead Act was very successful in drawing people to the unoccupied public lands in the west. As time went by, the law was amended to curtail fraudulent claims, and to allow former Confederates to take advantage of the Act. During the 1880s, the Dakota territory surpassed all others in the number of claims filed. The number of claims that

actually resulted in a title to individual farmers was surprisingly low. Only about one in three farmers actually received title to their land. Others were unsuccessful in raising crops, could not tolerate the harsh prairie conditions, or were actually paid agents of persons assembling large estates (Encyclopedia Britannica).

The settlers who took advantage of the Homestead Act and the railroad land in north-eastern North Dakota were from a variety of ethnic backgrounds. Some ethnic groups which came to this area had very few members or departed before they had a cultural impact on the current population. These included Belgians, Dunkers (German speaking religious sect), German-Russians, Jews, Moravians (Czechoslovakians), Ukrainians and Lebanese. Other groups were larger and remained in the region. These people have had a lasting impact on the character of this region. Descriptions of these groups were taken from "Prairie Mosaic " by William Sherman (1983). Page references from "Prairie Mosaic" will be presented at the end of each of the following entries.

**Anglo-Americans** - Pembina County was first agriculturally developed and populated by land seekers of Canadian origin. In fact, from the arrival of Alexander Henry in 1800 until the boundary clarification in 1823, the area was considered Canadian territory. After it was determined that the area was considered a part of the United States, Americans began to show up in small and, later, sizable numbers. The first Americans in the area were involved in the fur trade or commerce related to the "Red River Hunt". Some, eventually began to settle permanently and farm the land. The first permanent Anglo-American settlers probably ventured forth as individuals or as small family groups into the unsurveyed public lands on the prairie wilderness. They would build log or sod cabins; they survived by hunting game, cultivating small gardens, selling hides, and collecting and selling buffalo bones.

After the end of the Civil War large groups of Anglo-Americans began coming into the area. Many of these settlers were veterans who were moving from more congested areas in the east and hoped to establish family farms. Others were land speculators and land "monopolists" who hoped to acquire large estates through fraudulent manipulation of the Homestead Act. Anglo-American farmers were generally scattered throughout the SRMSC area, and were the founders of the towns of Cavalier and Langdon in the 1870s (99-100).

**Anglo-Canadians** - The first Anglo-Canadians came to the area as part of the fur trade, and established an influential, yet limited, presence in the region. Beginning in the 1860s, Canadian settlers moving from eastern Canada to Manitoba were using the more expeditious southern route through the United States to reach their destination. This route allowed them to travel by rail at least to St. Paul before entering Manitoba from the south. Many of these travelers chose not to complete their journey and decided to take land on the American side of the border. These people were native English speakers and blended well with the Anglo-American settlers moving in at the same time. Many of the smaller communities which were established by Canadians were named for former homes in Ontario such as: Acton, Drayton, Ardoch, Minto, Hamilton, St. Thomas and Joliette (100-102).

**Bohemians** - People of this ethnic group, which originated in what is now the Czech Republic, began coming into the area in 1880. Most did not come directly from Europe, but moved to North Dakota from Bohemian settlements in Minnesota and Iowa. There was some friction in the Bohemian communities between traditional Catholics and those of “free thinker” background. This tension was not new and had plagued Bohemians in the old country for generations. The villages of Pisek and Lankin in Walsh County and Dresden in Cavalier County became centers of Bohemian population (103).

**French-Canadians** - A French-Canadian, who was born on the Canadian frontier, was probably the first true farmer in this region. Charles Battineau first came to what is now Pembina County in 1859 as a fur trader. He eventually saw an opportunity to sell food to the Canadian settlements on the Red River and local employees of the fur trade. He hired Métis laborers to produce wheat, mutton, beef, and vegetables. Before 1870, Battineau had over 100 acres of grain on a farm between Leroy and Backoo.

Many other French-Canadians were also in the area during this time, and most had come to the area as part of the fur trade. For the most part they were subsistence farmers and hunters who lived in close proximity to their Métis relatives. Most, like the Métis, were very mobile with no desire to be sedentary agriculturists. The fur trade, the Red River Hunt and ox cart commerce dominated their lives. These original French-Canadians were never very numerous and lived interspersed with Métis along the Pembina River at

settlements such as Pembina, St. Joseph's (Walhala), Leroy, and Neche. Some also inhabited lands along the Tongue River.

In the 1870s a change took place. French-Canadians from eastern provinces began arriving. The new settlers were coming by the same means as the Anglo-Canadians previously discussed. These people, for the most part, flocked to settlements where other French speaking people lived along the Pembina River. The new French-Canadians were able to integrate themselves well with the Métis and earlier French settlers, although dialectical differences sometimes hampered communication. The real difference in this group was that they came with the intention of establishing permanent farms under the Homestead Act. These families seem to have had no regard for open prairie and selected claims near streams that offered some wooded land. In addition to congregating in established French speaking communities, these late comers also founded the town of Olga in Cavalier County and Oakwood in Walsh County. Most people in the SRMSC area of French heritage are descended from this later influx of French-Canadians (104-105).

**French-Indians (Métis)** - (For more information on this ethnic group see “The Buffalo Hunters” in the previous section.) This unique group of people had become the single largest ethnic group in this area by the 1850s. This distinction did not prevail long however. The Government survey of public lands and the influx of settlers under the Homestead Act sounded the death toll of traditional Métis culture. As the number of buffalo declined and the demand for Métis products withered, these people began to adopt a more sedentary lifestyle that depended on subsistence farming and hunting. Permanent settlements along the Pembina River such as St. Joseph's (later renamed Walhala), Leroy and Neche were established. As French-Canadians moved into the area, the Métis culture was further eroded. Land maps from the 1890s indicated that a sizable number of identifiable Métis families remained, interspersed with other groups, in Pembina County. By the 1960s, very few households, which still considered themselves Métis, were identifiable in the area (105-107).

**German Speaking Groups** - Europeans who speak German as their primary language are not confined to Germany. Austria, Luxembourg and most of Switzerland are German speaking; additionally, large groups of Germans settled in eastern European countries as

early as the 17th century. Eastern European Germans remained in their own communities, however they did absorb some elements of the culture which surrounded them. Germans from several of these groups settled in the SRMSC area, but tended not to assimilate quickly with Germans of other backgrounds. As a result, each of these unique groups is examined individually.

### **German-Reichsdeutsch**

Reichsdeutsch Germans were originally from Germany proper. They began to come into northeastern North Dakota as early as 1875 and continued migration as late as the 1890s. Most of these people did not come directly from Germany, but by way of Canada, and the Great Lakes states. German Protestants (Lutherans) and Catholics tended to settle in separate communities throughout the region.

A Lutheran congregation arrived in 1879 at the Walsh County town of Acton. A large group of Lutheran Germans established a very cohesive community in the area between Cavalier and St. Thomas in Pembina County starting about 1880. Catholic Germans congregated in Cavalier County near present day Dresden and Mount Carmel. Another Catholic community sprang up a decade later near Munich and Calio in southwestern Cavalier County (107-108).

### **German-Galician**

Galicia is an area north of the Carpathian Mountains in what is now the Ukraine. German speakers settled in Galicia in the 18th century and had lived there for generations before immigrating to North America. The Ukrainian influence on the Galicia Germans was evident in their diet and the adobe style houses many built which were common on the steppes of the Ukraine. This group settled in the area between Nekoma and Langdon in Cavalier County in the mid 1890s. Present day descendants of these people consider themselves German in origin but are generally unaware of their Ukrainian heritage (108-109).



### **German Mennonites**

This ethnic group also came from eastern Europe. It was unique due to its spiritual beliefs. The Mennonite faith was not new to North America. Thousands of German Mennonites immigrated to Pennsylvania during the 18th century at the same time that the North Dakota Mennonite's ancestors were immigrating to Russia. By the late 19th century, the German Mennonites in Russia were being pressured by their Czarist hosts. Many chose to move to North America. Beginning in 1888, people of this group began coming to this region by way of Manitoba, Minnesota and Nebraska. This group settled in Cavalier County between Langdon and Munich. Through the years this group may have been assimilated into other German communities, or into other Mennonite groups. Except for a few “strict” Mennonites in the area between Park River and Grafton in Walsh County, this German speaking sect has all but disappeared from the SRMSC area (109).

### **German-Volhynians**

German speaking people settled the Volhynia region, along the border of Poland and the Ukraine, in the early 1800s. Almost precisely 100 years later many of this group immigrated to North America. Most settled in Manitoba, but two groups of Volhynians moved across the border into North Dakota. The largest of these two, settled in Pembina County, west of Neche. The smaller one was established a few miles north of Dresden in Cavalier County. The Volhynians seem to have been absorbed by other German speaking groups (110).

**Icelanders** - The village of Mountain in Pembina County is the center of the largest rural Icelandic community in the United States. The Icelanders first settled near Lake Winnipeg in Manitoba in 1875. Poor land and harsh conditions prompted the community to relocate to Pembina County in 1878. In time, three Icelandic towns were founded, Mountain, Hallson and Gardar. By 1881, this enterprising group had established its own school district. The Icelanders were intent on preserving their culture and strived to perpetuate intellectual pursuits among its young people. A large room above a grocery store in Mountain was the setting in the 1880s and 1890s for frequent Icelandic lectures, plays and debates. Icelandic men and women from this community have attended universities in far greater proportions than any other ethnic group (110-111).

**Norwegians** - Political turmoil and lack of arable land resulted in a massive emigration of Norwegians to North America in the last quarter of the 19th century. People of Norwegian background make up the largest number of rural residents in northeastern North Dakota. Although the largest Norwegian population centers are in the counties just south of the SRMSC, this group had a major impact on settlement of this area. Two significant Norwegian communities were established during the 1880s. The first was in western Ramsey County. A second larger group settled just west of Walhalla and near Milton and Osnabrock in Cavalier County. Through the years, as the Norwegians prospered, they began to “buy out” non-Norwegian farmers and enlarged their communities. As a result, a wide belt of people of Norwegian descent occupy farms along the county line between Pembina and Walsh Counties, and Cavalier and Ramsey Counties (113-114).

**Poles** - North Dakota’s largest Polish settlement is in Walsh County. The first Polish settlers moved into this area in 1876 and were soon followed by dozens of families. Some of the Poles came from Wisconsin, but many came directly from seaports where they had arrived from Poland. The first Poles settled near Acton, but they soon established their own village of Warsaw. After the turn of the century, Polish families moved into Pembina County between Drayton and Bowesmont. Through the years, Polish families have interspersed and mixed with other ethnic groups (114-115).

**Swedes** - During Walsh County’s homesteading days, a group of Swedes, many of which came almost from dockside in seaport towns, settled as early as 1886 near Adams. Other Swedes settled as individuals among Norwegians who were linguistically and culturally similar. Swedish surnames are still evident in Walsh County, however, most descendants now claim more Norwegian origin than Swedish (115).

### **3.2.5 Fields of Grain**

The population of the Red River Valley and the SRMSC area tripled between 1880 to 1890. It is estimated that by 1890 all tillable lands had been claimed from the public domain or purchased from the railroads. As the years passed, the character of the farms

began to change. The small farmers who had purchased or homesteaded 160 acres began to buy out neighbors who had decided to move on. In other cases “land barons” assembled large tracts by intimidating owners, homestead fraud, foreclosure of loans, or simply by possessing enough capital to buy the land they needed. The result was the establishment of two distinct types of farms. The first was the family farm of 160 to 640 acres (full section) and the second was the commercial farm which contained multiple sections or “squares” of land (Murray 1967:chap VII).

Although the commercial farm owners were sometimes ruthless in the methods in which they acquired land, their operations benefited the community. The commercial farms provided an extensive labor market that provided work and capital to small farmers and their family members. Icelanders from Pembina County, Scandinavians from throughout the valley, and Irish, German, and Canadian immigrants were employed on the large wheat farms. They earned up to \$2.50 a day plus room and board at seedtime and during the harvest, \$1.00 a day for pulling weeds in the early summer, and \$1.00 to \$1.25 a day for fall plowing. Those who got year-round jobs on the big farms earned an average of \$18.00 to \$20.00 a month plus room and board. Much of the need for hired help was seasonal, which was advantageous to the fledgling farmer. He could earn cash and still find time for his own farm work. With homesteaded land, cash earned from crops and seasonal hire, settlers were able to take advantage of important developments in farm technology. Steam powered machines made it possible for even small-scale farmers to rapidly enter into the commercial production of grain (Murray 1967: chap VII).

The virgin prairie and continental climate of northeast North Dakota were ideal for the production of cereal crops. This included oats, barley, rye and most importantly, wheat. The land was immensely productive and has remained so to this day. Farmers still prosper by working the land. New crops, such as sugar beets and sunflowers, have taken their place along side of wheat since the turn of the century. Author Stanley N. Murray in his book, *The Valley Comes of Age*, eloquently summed up the development of this area when he wrote:

“During this period of...railroad expansion, and prosperous bonanza farms, the Red River Valley fulfilled the hopes of people from throughout North America and Europe. No area of its size received more settlers in a shorter period of time, and nowhere in the continent were the new technologies of farming and the resources of virgin soil more successfully united in the production of cereal

crops. These important developments in Red River agriculture paved the way for the occupation of the entire northern plains" (Murray, 1967:142).

This regional dependence on agriculture has remained unchanged to the present day. Indeed, the agricultural nature of the area, with its wide prairies and sparse population encouraged military planners to regard the region as ideal for a new purpose. The siting of ICBMs and ABMs in northeast North Dakota in the 1960s and 1970s, however, has not diminished the importance of farming to the descendants of homesteaders.

### **3.2.6 Fields of Missiles**

In 1962, northeast North Dakota was chosen as a deployment area for ICBMs. By 1965 the fertile farms of the SRMSC area were sharing their fields with nuclear weapons systems. Fields of Minutemen were innocuously situated amidst waving fields of sunflowers, and underground silos to house the missiles were constructed in the shadow of the silos that store the nation's grain. The fields of missiles remain unharvested.

The 321st Strategic Missile Wing (SMW) was activated in November, 1964 at Grand Forks AFB and was the first missile wing trained to employ the Minuteman II ICBMs. Construction began in 1964 and progressed through 1966. The Minuteman II complex consisted of 150 underground missile launch silos and 15 launch control facility sites which were spread over 7,500 square miles of farmland west of Grand Forks, from the Canadian border to Valley City, North Dakota. Ground breaking for the first set of silos in the Grand Forks complex occurred on March 5, 1964, one month after the Air Force announced that Grand Forks had been selected for the location of a wing of Minuteman II missiles. Prime contractor for these 90 feet deep silos was Morrison-Knudson and Associates who would later serve as prime contractor for the SRMSC. In April, 1966, Minuteman II missiles began arriving at Grand Forks Air Force Base by rail and were installed in silos. The 321st SMW became fully operational on December 7, 1966 (U.S. Air Force, n.d.).

The construction of the Grand Forks Missile Complex was significant in the historic context of the SRMSC for two reasons. The construction of the installations provided

construction jobs and benefited the local communities economically. This prepared these communities for the massive influx of outsiders that, five years later, would flood the area during the construction of the SRMSC. To provide ground transportation and communications access to the installations, the Air Force upgraded the infrastructure in the area. This benefited all inhabitants and allowed easier access to the area during construction of the SRMSC. Most importantly, the very presence of the Minutemen prompted the deployment of an ABM system in this area. The SRMSC was put in place to protect the Minuteman silos and would not have been constructed in northeast North Dakota if the Grand Forks Missile Complex had not been in place (for a detailed history of the SRMSC see Appedix F).

As a result of the USSR's successful testing on August 26, 1957 of an Intercontinental Ballistic Missile (ICBM), defense of the United States against ballistic missiles became a national priority. A decade of evolving technology and system testing, conducted primarily at Kwajalein Atoll, resulted in the development of the Safeguard ABM system. Planners originally envisioned a series of 12 Safeguard sites to be built in the United States to protect American cites from communist ICBMs. Eventually, only a single Safeguard ABM site was authorized by Congress to be constructed near Nekoma, North Dakota to defend Minuteman ICBMs based near Grand Forks, North Dakota.

During the development and testing of the Safeguard ABM system, significant technological advances were made in such areas as radars, rocket motors, launch vehicle guidance and control, electronics and avionics and computers. The following landmark tests were performed in preparation for Safeguard deployment at SRMSC:

- March 5, 1962 - First ABM simulated mission successfully conducted.
- July 19, 1962 - First successful intercept of an ICBM, first successful ABM intercept in history.
- December 12, 1962 - First salvo launch and multiple intercepts by an ABM system.

Construction of the SRMSC was an immense undertaking. The Safeguard project, which began in April of 1970, was the largest single contract awarded by the U.S. Army Corps of Engineers to that date, resulting in a total project cost of \$468 million. At the peak of

construction during the summer and fall of 1972, approximately 3,200 workers were employed. An extraordinary amount of material was used in constructing SRMSC, including 714,000 cubic yards of concrete, 27,500 tons of reinforcing steel, and 2,273 miles of wire (not including that required for radars or weaponry).

Although Safeguard came at an immense cost and gargantuan technological effort, it was short lived. Construction was expedited to ensure that the missile fields were operational before the final stages of the Strategic Arms Limitation negotiations with the Soviet Union. The knowledge that the United States had a fully operational Anti-Ballistic Missile system in place influenced the Soviet Union to agree to the terms which American negotiators demanded. Safeguard became fully operational on the 1st of October 1975, and almost at the same time, the Strategic Arms Limitation Treaty was ratified by the U.S. Senate. SRMSC had accomplished its mission without firing a shot.

When the treaty was successfully ratified, Congress decided that further operation of the costly system was not justified. After only four months of operation, the mission of the only ABM system ever to be deployed in the free world was officially terminated on February 10, 1976. Since that date the United States has not been protected against incoming nuclear ballistic missiles.

Although the PAR has remained continuously in service with the United States Air Force as an integral component of the Satellite Surveillance Network, the remainder of SRMSC has been in a caretaker status since it was deactivated in 1976. It is now a ghost town. The buildings are painted and the grass is trimmed, but there are no inhabitants. The pyramid and missile launchers are now empty. After the installations were closed, the interiors of the tactical structures were salvaged, and all of their equipment, electrical wiring, and metal fixtures were removed leaving cavernous empty shells. Only a small crew now watches over and maintains the facilities at the MSR and four RSLs.

The U.S. Army anti-ballistic missile program has impacted the scientific community and the American social structure through the growth and expansion of industries and communities, international diplomacy, and the defense policy of the United States. During the development and testing of the Safeguard system, significant technological advances were made in such areas as radars, rocket motors, launch vehicle guidance and

control, electronics and avionics, and computers. It is generally recognized that the deployment of the Safeguard system was instrumental in successfully negotiating the ABM and Strategic Arms Limitation Treaties (SALT) with the Soviet Union.

SRMSC was inactivated on February 10, 1976. The PAR has remained continuously in service with the United States Air Force as an integral component of the Satellite Surveillance Network.





## **4.0 CHAPTER FOUR     FEDERAL LAWS, REGULATIONS AND EXECUTIVE ORDERS**

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This section briefly describes the legislation as it developed and points out its relevance to the Army's planning and compliance processes. Federal legislation that deals with cultural resource management, either directly or indirectly, goes back many years in the United States. A line by line analysis of all legislation would be too lengthy and will not be attempted here.

Regulations fall into two categories. The first category consists of regulations promulgated by agencies of the federal government to implement federal legislation. Included in this categorization are guidelines that are issued by the Secretary of the Interior that detail requirements in a specific aspect of historic preservation. The second category composed of Army Regulations (ARs) that provide direction specifically to those Army personnel charged with cultural resource management responsibilities. While there are many ARs that relate to this subject, only the Historic Preservation regulation (AR 200-4) will be treated in detail. Other ARs, usually dealing with very specific issues [e.g. AR 420-10 Guidance for Repair and Maintenance of Real Property Facility (RPF) Projects, Including Preservation, Restoration, and Rehabilitation], will only be identified as to content.

### **4.1     FEDERAL LAWS**

#### **4.1.1   The National Historic Preservation Act of 1966 as Amended (P.L. 89-665)**

The growth and development of the environmental movement in the 1960s led to increased interest in historic preservation. The NHPA of 1966 was in part the result of a major study conducted to assess the state of preservation of our national heritage. The study by Rains and Henderson (1966), with a forward written by Lady Bird Johnson, made a series of recommendations, almost all of which were incorporated into the NHPA. The NHPA is lengthy but contains the most pertinent legislation to any of the USASMDC programs and projects. For that reason, specific sections of the act are highlighted here

and the reader is encouraged to study the precise wording of the act and its amendments for additional detail and/or clarification. The synopsis presented here is primarily taken from Mittelstadt and Smith (1987).

**Section 1.** Purpose of the act. Historic properties are being adversely affected. Preservation of this heritage is in the public interest. Present programs are inadequate. Better means of identifying and administering resources will improve planning and execution of federal and federally-assisted projects. It is necessary for the Federal government to give maximum encouragement to agencies and to assist state and local governments.

**Section 2.** Declaration of Policy. The Federal government shall use measures to ensure that cultural resources can exist in productive harmony with modern society and provide leadership in preservation; administer resources in a spirit of stewardship; contribute to the preservation of non-Federally owned resources; encourage public and private preservation.

**Section 3.** The Secretary of the Interior is authorized to expand and maintain a National Register of Historic Places. The Secretary, in consultation with appropriate associations, shall establish criteria for properties to be included on the National Register, and make final determination of eligibility. State programs shall nominate properties to the Secretary. Owners of properties shall be given the right to object to a nomination. The Secretary will: ensure proper curation of archaeological materials and establish standards for documenting cultural resources; revise regulations for state historic preservation programs; and provide for an adequate public participation in the state preservation program. It shall be the responsibility of the State Historic Preservation Officer to: direct a comprehensive statewide survey and maintain inventories; identify and nominate eligible properties to the National Register; implement a comprehensive statewide program; administer the state program of Federal assistance; cooperate with Federal and state agencies to ensure that cultural resources are taken into consideration at all levels of planning and development; and provide public information, education, training and technical assistance. The Secretary shall administer a program of matching grants-in-aid to the state for preservation projects.

**Section 106.** This is the section that explains the relationship between Federal agencies and the Advisory Council on Historic Preservation and what actions an agency must take prior to their undertaking a project on Federal lands. As this section is central to many USASMDC activities, a more detailed explanation is in order.

Specifically, Section 106 states that the head of any Federal agency that has direct jurisdiction over a proposed Federal or federally assisted project and the head of any Federal department or independent agency that has authority to license such a project shall, prior to the approval of any Federal funding and prior to issuing any license, take into account the effect that a project would have on any district, site, building, structure or object that is included in, or eligible for, the National Register.

Pursuant to Section 211, the Advisory Council promulgated regulations to implement the Section 106 requirements. These regulations, found at 36 CFR 800 give federal agencies a review process to follow for compliance with the NHPA. These regulations essentially outline the compliance process to which the USASMDC must adhere.

Section 110 of the act is extremely important for the USASMDC, since it explicitly delineates the extent to which these agencies assume responsibility for cultural resources:

**Section 110.** Federal agencies shall: assume responsibilities for the historic properties owned and controlled by the agency; use to the maximum extent possible historic properties available to them; establish a program to inventory and nominate federally owned or controlled properties; ensure that no National Register property is inadvertently sold, altered, destroyed or allowed to deteriorate; require that historic properties that are out of necessity to be altered or destroyed are accurately recorded; designate a preservation officer who shall be responsible for coordinating the agency's preservation activities; undertake planning and actions to minimize harm to National Register eligible properties. Nothing in the act shall be construed to require the preparation of an environmental impact statement where such a statement would not otherwise be required under the National Environmental Policy Act of 1969, and nothing in this act shall be construed to provide any exemption from any requirement respecting the preparation [of] such a statement under such act.

**Sections 201 thru 214.** These sections established the Advisory Council and defined its authorities and duties.

**Section 302.** Explains that federal agencies are authorized to expend funds for the purposes of the act.

**Section 304.** Any Federal agency shall withhold from disclosure to the public information relating to the location or character of cultural resources, whenever it is determined that such information may create risk of harm, theft, or destruction.

#### **4.1.2 The National Environmental Policy Act of 1969**

This act, The National Environmental Policy Act of 1969 (NEPA), consists of two parts: Title I, which declares the national environmental policy to be one of protection; and Title II, which establishes the Council on Environmental Quality to administer the policies and aid in coordinating governmental programs affecting the environment.

Under Title I, the most important parts of Section 101 for cultural resource management are (b 4) and (b 6). The purpose of (b 4) is to preserve important historic, cultural and natural aspects of our national heritage, and maintain, whenever possible, an environment that supports diversity and variety of individual choice. Part (b 6) refers to enhancing the quality of renewable resources and approaching “the maximum attainable recycling of depletable resources”. Based on these two points, cultural resources managers are viewed as part of the interdisciplinary approach referred to in Section 102 (2 A) of the act.

Section 102 outlines the procedures for all Federal agencies to follow in carrying out the more general directives of Section 101, i.e., that each person should enjoy a healthy environment and that each person is responsible for contributing to that goal. Federal agencies are specifically directed to take “appropriate” consideration of the environment into their decision making process and that any “major” undertaking or action that affects the environment will be preceded by an Environmental Impact Statement (EIS).

Section 103 of the act states that all agencies must review their existing obligations and procedures to be sure they are in compliance. This section further states that if problems are found, they are to be reported to the President by July 1, 1971, along with a plan as to how the problems will be resolved. Since this date has long since passed, all agencies should now be in compliance, but the time frame proved to be far too brief and many agencies are still working to achieve compliance.

Section 105 notes that NEPA supplements the policies and goals set forth in existing authorities of Federal agencies. Section 106 of the NHPA and Executive Order 11593 outline requirements and procedures that should be complied with in conjunction with (see the Executive Order subsection of this chapter for an explanation) preparation of an EIS.

#### **4.1.3 The Archaeological and Historic Preservation Act of 1974 (P.L. 93-291)**

The Archaeological and Historic Preservation Act (AHPA) was passed in order to amend the Reservoir Salvage Act of 1960 and the Department of Transportation Act of 1966. The result was that any Federal construction project that encountered significant cultural data was required to notify the Secretary of the Interior of its discovery. Then the impacted area had to be surveyed and the data recovered.

It is important that agencies understand the relationship among NEPA and such general historic preservation authorities as the NHPA and the AHPA. NEPA mandates the evaluation of project impacts on the entire environment, including all kinds of cultural resources. One kind of cultural resource is historic property which is the concern of the NHPA and Executive Order 11593. Section 106 of the NHPA sets forth specific actions to be taken when this kind of cultural resource is subject to effect. Some historic properties contain scientific, prehistoric, historical, and archaeological data; the AHPA provides mechanisms for the recovery of such data if and when the planning processes provided for by NEPA, NHPA and related authorities have resulted in the conclusion that data recovery constitutes the most prudent and feasible method of impact-mitigation (King et al. 1977).

The following are highlights of sections of the AHPA that are relevant to the SRMSC's operations:

**Section 3-a.** When an agency determines that significant data is going to be lost due to an agency action, and after the proper notification process, the agency will undertake a survey, recovery and preservation of that data or may request the Secretary of the Interior to undertake these activities. This will include an analysis and publication of the results of the project. Funding for this cultural resource management activity will come from the funding appropriated for the proposed work and may be up to 1% of that original appropriation. This condition does not apply to original projects funded at less than \$50,000, or where significant cultural resources are involved. In these cases, more than 1% of total project funding may be used.

Under Section 208 of the 1980 amendment of the 1974 act, the so-called "one percent rule" can be waived where total project funds are limited, but where significant archaeological resources are involved, a standard Memorandum Of Agreement (MOA) among the SHPO, the Advisory Council on Historic Preservation (ACHP), and the relevant agency would be drawn up dealing with the situation. Concurrence must be obtained from the Secretary of the Interior, through the Departmental Consulting Archaeologist, as part of this process, and notification must be provided to the House Committee on Natural Resources and the Senate Committee on Energy and Natural Resources.

**Section 4.** This section of the act explains that if the Secretary of the Interior is advised that if a program or project of a particular agency will destroy significant resources, he can initiate a survey and data recovery effort within 60 days. Funds to undertake such an effort would be transferred from the Federal agency that proposed the original project.

#### **4.1.4 Native American Graves Protection and Repatriation Act (P L 101-601)**

It is unlikely that Native American remains will be discovered at the SRMSC facilities. This information is presented to inform the SRMSC Cultural Resource Manager what is required in the unlikely case that such resource were to be discovered. In November 1990, the Native American Graves Protection and Repatriation Act (NAGPRA) was signed into law. In brief, the law establishes a process for the return to American Indians, Native Hawaiians, and Native Alaskans, upon request, certain human remains and other cultural items presently held by Federal agencies or federally assisted museums or institutions. The law also gives these Native American individuals and groups a formal role in decisions about activities carried out on Federal and tribal lands that may affect archaeological resources of importance to Native Americans. The law covers three areas:

1. Ownership of Native American Human remains and associated funerary items.
2. The repatriation of Native American Human remains and associated funerary items from existing collections in State or local government agencies or institutions of higher learning that receive Federal funding.
3. Requirement for consultation with appropriate Native American groups during the intentional recovery of Native American human remains during archaeological data recovery or the unintentional discovery of Native American human remains during a construction or improvement project.

The SRMSC could also be affected during the course of a project if Native American human remains are discovered unintentionally. Under NAGPRA, the inadvertent discovery of human remains and other cultural items during a land-disturbing activity requires cessation of the activity. The person conducting the activity must take “reasonable” protection measures, notify the Secretary of the Interior or the Federal agency with management authority over the land that the discovery has occurred, receive a formal acknowledgment of the notification (called “certification” in the act), and wait 30 days prior to resuming the activity. It is assumed that this thirty day wait is designed for Native American groups to be notified and react to the discovery.

## **4.2 SECRETARY OF THE INTERIOR GUIDELINES**

### **4.2.1 Annotated Guidelines for Federal Agency Responsibilities under Section 110 of the National Historic Preservation Act**

These guidelines established standards for compliance with Section 110 of the NHPA. This includes responsibility for preservation; locating and inventorying properties; documenting adverse effects to properties; designating and training a Preservation Officer; transferring surplus historic properties; and conditions for the waiver of Section 110 requirements.

### **4.2.2 Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings**

The intent of these standards is to assist the long term preservation of a property's significance through the preservation of historic materials and features. The Standards pertain to historic buildings of all materials, construction types, sizes, and occupancy and encompass the exterior and interior of the buildings. They also encompass related landscape features and the building's site and environment, as well as attached, adjacent, or related new construction.

### **4.2.3 Archaeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines**

These standards include those on: preservation planning, resource identification and evaluation; documentation for historical, archaeological and architectural/engineering resources; and qualification standards for historians, archaeologists and architects.



### **4.3 FEDERAL REGULATIONS**

Once laws are passed by Congress and signed by the President, it is often necessary to publish rules (regulations) for the implementation of those laws. After a review processes, the regulations are published in the Federal Register and effectively have the force of law. They are referenced by Title and Part. For example, 36 CFR 65 means Title 36, Code of Federal Regulations, Part 65.

The CFR's most pertinent to the USASMDC's mission are the following five:

#### **36 CFR 60**

This regulation describes the National Register of Historic Places (NR) and details the procedures and guidelines by which cultural resources are placed on the NR.

#### **36 CFR 67**

This regulation places restrictions on the sale, destruction or alteration of sites listed, or eligible for listing, on the NR. The intent is to protect the original appearance and historic context of significant structures, while still using the buildings to support the installation mission. This is an important regulation for the SRMSC because of the many Cold War significant structures on the installation.

#### **36 CFR 800**

These particular regulations have been promulgated primarily to guide the compliance process as required by Section 106 of the NHPA, as amended. These have been updated with changes effective October 1, 1986. These regulations are perhaps the most important rules to be understood by those persons who have Historic Preservation responsibilities at the SRMSC in that they contain the detailed compliance procedures for Section 106 of the NHPA.

Shortly after the October 1986 update was completed, reviewed and published as final in the Federal Register, the ACHP, in an effort to be sure that all appropriate parties were

aware of the procedural changes, published documents entitled 36 CFR 800: Protection of Historic Properties and 106 Step by Step. These documents are guides to compliance as required by law. They are constructed to be easily used by planners and managers of cultural resource programs. As an example of this, in the margins of the publication 36 CFR 800: Protection of Historic Properties (the body of which is the text as it was actually published in the Federal Register) are italicized annotations that allow the reader to more easily find particular topics. At a minimum, a cursory reading of the Subpart and Sectional headings should be undertaken by all planners and managers so as to become generally familiar with the content of the regulation.

36 CFR 800 deals with the compliance process. For this reason, Chapter 7 of the CRPM has been devoted to this topic. A Compliance Key has been constructed. This key is an outline that is composed of a series of questions that are asked of the reader. As these questions are sequentially answered pertaining to a particular undertaking or work plan being contemplated by SRMSC personnel, one is led through a series of steps that must be taken to comply with the law. This key has been developed as a straight forward and pragmatic approach to ensure that the SRMSC meets all its compliance obligations under Section 106 of the NHPA. The key is simply a reorganization of the requirements as outlined in the 36 CFR 800 text.

### **43 CFR 7**

These are the implementing regulations for the Archaeological Resource Protection Act. These regulations establish uniform definitions, standards, and procedures to be followed by all Federal land managers in providing protection for archaeological resources located on public lands and Indian lands of the United States.

### **43 CFR 10**

These regulations establishes definitions and procedures for lineal descendants, Indian tribes, Native Hawaiian organizations, museums, and Federal agencies to carry out the Native American Graves Protection and Repatriation Act of 1990. These regulations develop a systematic process for determining the rights of lineal descendants, Indian tribes, and Native Hawaiian organizations to certain Native American human remains,

funerary objects, sacred objects, or objects of cultural patrimony with which they are affiliated.

#### **4.4 U.S. DEPARTMENT OF DEFENSE DIRECTIVES AND ARMY REGULATIONS & PUBLICATIONS**

##### **4.4.1 Department of Defense Directive (DoDD) 4710.1 (Archeological and Historic Resources Management)**

This directive prescribes procedures, and assigns responsibilities for the management of archeological and historic resources located in and on waters and lands under DoD control. It is DoD policy to integrate the archeological and historic preservation requirements of applicable laws with the planning and management of activities under DoD control; to minimize expenditures through judicious application of options available in complying with laws; and to encourage practical, economically feasible rehabilitation and adaptive use of significant historical resources. This directive sets the requirement and contents for CRMPs for DoD installations. It also reinforces DoD's commitment to comply with the National Historic Preservation Act.

##### **4.4.2 AR 200-4 (Historic Preservation)**

This regulation prescribes management responsibilities and standards for the treatment of historic properties including buildings, structures, objects, districts, sites, archaeological materials, and landmarks on land controlled or used by the Army. It describes the steps for locating, identifying, evaluating and treating historic properties in compliance with the NHPA. It explains how these steps can be done through a CRMP and, as required, in consultation with the ACHP and the appropriate SHPO.

This AR is the central regulation for U.S. Army cultural resource management personnel. For that reason, it should be read and studied very carefully by the appropriate USASMD Environmental and Facilities personnel. The regulation is actually in two

parts. The first is the main Army Regulations (AR 200-4), the second are the instruction for implementing the regulation (DA Pamphlet 200-4).

**Army Regulation 200-4: "Cultural Resource Management" (AR 200-4)** - AR 200-4, which replaces AR 420-40: "Historic Preservation," addresses the requirements of all the major cultural resource laws, regulations, executive orders, and Presidential memoranda. It also establishes broad preservation and operational policies for the Army. AR 200-4 establishes internal Army policy for compliance with 36 CFR Part 800 and other cultural resources statutes and regulations, and is not designed to replace the Section 106 compliance procedures set forth in 36 CFR Part 800.

**Department of the Army Pamphlet 200-4 (DA PAM 200-4)** - This pamphlet is guidance to assist the Army in implementing the new Army Regulation 200-4. Developed by the Army Environmental Center (AEC), the pamphlet contains information on how to fulfill the requirements of all the major cultural resource laws, regulations, and executive orders but, more importantly, emphasizes integrated resource management. The mechanism for such integration is a new cultural landscape approach to planning which treats the military installation as an integrated unit. Rather than a compliance-driven approach to cultural resource management, the Army is moving towards a comprehensive planning approach.

DA PAM 200-4 also includes "Army Native American Consultation Guidelines" and "Historic Building Maintenance and Repair Guidelines."

#### **4.4.3 Secondary Reference U.S. Army Publications**

There are several Army Regulations and Technical Manuals that should be consulted as they contain material of relevance to cultural resource management by reference, although that, in some cases, is not their primary purpose.

AR 190-31 (Department of the Army Crime Prevention Program).

AR 200-1 (Environmental Protection and Enhancement).

32 CFR Part 651 (Environmental Effects of Army Actions).

AR 210-20 (Master Planning for Army Installations).

AR 405-80 (Granting Use of Real Estate).

AR 405-90 (Disposal of Real Estate).

AR 415-15 (Military Construction, Army (MCA) Program Development).

AR 415-35 (Minor Construction).

AR 420-10 (Facilities Engineering: General Provisions, Organization, Functions, and Personnel).

TM 5-801-1 (Historic Preservation: Administrative Procedures).

TM 5-801-2 (Historic Preservation: Maintenance Procedures).

AR 870-20 (Historical Properties and Museums). Note: This item is listed as a “Related Publication”.

## **4.5 STATE LAWS AND REGULATIONS**

The SRMSC is not governed by any existing North Dakota historic preservation law (Schliesman, 1995). The State has offered some guidance in its publication *The North Dakota Comprehensive Plan for Historic Preservation* (NDCPHP). This publication is not a law or regulation and offers no restrictions on the use or treatment of historic sites or properties. Instead it offers historic contexts for various chronological eras and geographical regions of the state. These contexts provide a standardized, systematic method for categorizing and evaluating properties. The NDCPHP is a two-part set of historic contexts for different areas of the state. The first volume is for Native American archaeological resources (information from these contexts has been presented in Chapter 3 of this document). The second volume, yet to be published, will deal with historic and architectural resources.

#### **4.7 LOCAL ORDINANCES AND ZONING**

There are no local historic preservation or zoning ordinances that affect the SRMSC properties.

### 5.1 PREHISTORIC ARCHAEOLOGICAL SITES IN THE PROXIMITY OF THE SRMSC

A review of the recorded sites at the State Historical Society of North Dakota (SHSND) showed very few recorded sites within the proximity of the SRMSC. The research to identify significant archaeological sites was divided into three separate categories as dictated by the method of recording sites by the SHSND: 1) cultural materials recorded as isolated finds, e.g., projectile point or "isolated chipped stone;" 2) those identified as "site leads" form a separate group and are sites that have been reported, usually by recreational archaeologists or the general public, and have yet to be verified by professional archaeologists; and 3) sites formally recorded by archaeologists. As part of the analysis, all recorded sites and site lead sites were noted and only the isolated finds were excluded as they were not considered to be indicative of a significant site. Although sites listed on the NR due to archaeological significance exist in the SRMSC's four county area, none are near SRMSC installations.

A review of the site files for each of the four counties that cover portions of the study area was undertaken to determine the number of sites in each county. According to the site files, there are 44 sites listed for Pembina County, 39 sites listed for Cavalier County, 59 sites listed for Walsh County, and 40 sites listed for Ramsey County. Of this total of 182 "recorded" sites, 42 are registered as "site leads" and remain uninvestigated.

The method of cataloging sites in North Dakota is arranged by Township and Range surveyed locations. To plot the locations of the archaeological sites, the Section in which the given SRMSC facility was located was identified and the surrounding eight Sections were also noted. A review of the recorded sites in the county where the six facilities were located indicated that no archaeological sites or "site leads" have been identified within 2,000 yards of any of the facilities. A single site was identified just outside the 2,000 yard radius for the PAR facility. This site (32PB57) lies approximately 2,250 yards (1.2 miles) north-northeast of the facility. It is a light lithic scatter that is bisected by a gravel road and currently under cultivation. According to the site form, it is considered to be of

limited importance, with poor physical integrity and is considered ineligible for the NR. A somewhat different description and recommendation is made in a summary in the State Comprehensive Plan (Snortland-Coles 1985:9.21). This site had only five shovel tests that recovered no artifacts, and approximately 13 lithic artifacts noted on the site were not recovered.

The extremely limited number of surveys and investigations within the area of the SRMSC does not allow an accurate projection of the number, type, or cultural affiliation of sites that may be encountered. It is estimated by one official at the SHSND that perhaps only 1% of the area has been surveyed.

## **5.2 HISTORIC SITES AND NATIONAL REGISTER PROPERTIES IN THE SRMSC AREA**

Although northeast North Dakota is rich in history, few structures which are significant in that history have survived, and very few specific sites where key events occurred have been identified. A limited survey of archaeological sites which are associated with the 18th/19th century fur trade in the region (Ritterbush 1991) identified only eight sites; six in Pembina County and two in Walsh County. A more exhaustive search would probably reveal additional sites. Two structures which are associated with the fur trade are extant, both in the vicinity of Walhalla. The Gingras House and Trading Post was added to the NR in 1975. Crittson's Trading Post is eligible, but has not been nominated to the NR.

At least one intact site which is part of the early settlement historic context is extant and is eligible for the NR. This site is Gunlockson's Homestead and is located at Icelandic State Park near Cavalier (Duray 1995). The Red River Regional Council has recently conducted a Phase I and Phase II survey of remnants of the 19th century ox cart trails in Pembina and Walsh Counties. These sites, only recently identified, may be eligible for listing on the NR. Another review revealed two sites that have consensus from both state and federal agencies for NR eligibility status. Both of these sites (32CV66 & 68) are historic cemeteries in Cavalier County.



The following sites in the SRMSC area are listed on the NR. The closest of these sites to any of the SRMSC facilities is in Langdon, 14 miles north of the MSR.

**Cavalier County**

U.S. Post Office, Langdon  
Roxy Theatre

**Ramsey County**

Bangs-Wineman Block, Devil's Lake  
Devil's Lake Commercial District  
Loche Block, Devil's Lake  
Newport Apartments, Devil's Lake  
Ramsey's County Sheriff's House  
Devil's Lake Masonic Temple  
St. Mary's Academy, Devil's Lake  
U.S. Post Office and Courthouse  
Episcopal Church of the Advent, Devil's  
Lake  
Devil's Lake Carnegie Library, Devil's  
Lake

**Pembina County**

Drayton United Methodist Church, Drayton  
Gingras House and Trading Post, Walhala  
O'Connor House, St. Thomas  
Pembina Court House, Cavalier  
U.S. Customs House & Post Office,  
Pembina  
Crystal Bridge, Crystal  
Grace Episcopal Church, Pembina

**Walsh County**

Minto School, Minto  
Elmwood Post Office, Grafton  
St. Stanislaus Church Historic District,  
Warsaw  
U.S. Post Office, Grafton  
St. Joseph's Chapel, Minto  
Walsh County Court House, Grafton  
Grafton State School. Grafton  
Pisek School, Pisek  
State Bank of Edinburg, Edinburg

### **5.3 THE SRMSC COLD WAR SIGNIFICANT BUILDINGS AND STRUCTURES**

The SRMSC is made up of a variety of buildings and structures. The MSR and PAR are divided into tactical and administration areas, each of which contains buildings and structures which accomplished different purposes. The tactical portion of each installation included facilities that were constructed to accomplish specific war fighting functions. These buildings and structures are unique in function, design and architectural features, and no other examples of these tactical facilities are found elsewhere in the free world. The administrative area of the MSR and PAR is made up of buildings that have standard design features for the time period in which they were constructed. Other examples of these administrative facilities are common on other Department of Defense DoD installations in the U.S. and abroad.

An interim policy statement on Cold War era historic properties which was released in August, 1995 by the Army Environmental Center, states that buildings associated with base operations at Cold War sites are not eligible for listing on the NR. These include housing, quarters, administrative buildings, motor pools, maintenance shops, clinics and other support facilities. This category of buildings will be examined for eligibility on an individual bases as they reach fifty years of age. The USASMDC has determined that certain key buildings and structures in the tactical areas of the MSR, PAR and the RSLs are eligible for listing on the NR. Furthermore, the Keeper of the National Register has determined that all buildings and structures at the PAR that date to the SRMSC deployment era, constitutes a historic district. This is due to the facilities' significance in the Cold War historic context, and because of their unique architectural features. Tables 5-1 through 5-5 list all buildings and structures at each of the sites, their construction type, and if they are eligible for the NR. For information on construction types, see section 6.5.2.

The non-tactical areas of the MSR have been determined by the USASMDC and the Keeper of the National Register to not be significant and thus not eligible for listing on the NRHP. In planning for undertakings and activities in the non-tactical area, no consultation will occur between the USASMDC and the North Dakota SHPO because

there will be “No Historic Properties Affected”. Activities and undertakings within the tactical areas will undergo normal consultation procedures.

The four RSLs are essentially identical in their function and design, and are made up entirely of tactical facilities. Although all of the RSLs are equally significant as part of the SRMSC as a whole, and are potentially eligible for listing on the NR, USASMDC has determined that only RSL-3 will be maintained as a cultural resource. There are several factors which have resulted in this determination. First, although the RSLs vary slightly in total acreage and number of Sprint Launch Stations, all other aspects of the four facilities were essentially the same; any of the four could be used to interpret the overall history of the SRMSC. RSLs 1, 2 and 4 have suffered partial demolition, deterioration and general degradation of integrity since their closure in 1975. Finally, RSL-3 is situated immediately adjacent to Highway 5. Of the four RSLs, RSL-3 is in the best condition, has the most public visibility, and is the most accessible to the general population. In planning for undertakings and activities at RSL-1, RSL-2, and RSL-4, no consultation will occur between the USASMDC and the North Dakota SHPO because there will be “No Historic Properties Affected”.

Although there are no current plans to restore RSL-3, the USASMDC is seriously exploring the possibility of transferring RSL-3 to the State of North Dakota or some other Federal Agency for possible public interpretation, and will do all that is possible to preserve the site in its current condition. Occasionally, significant architectural elements of the other RSLs may be salvaged and stored at RSL-3 for possible future restoration activities. These salvage materials may include fencing, lighting, windows, doors and signage. These materials will be stored in a manner that will not degrade the site or be visually obtrusive.

#### **5.4 NOMINATING SRMSC PROPERTIES TO THE NATIONAL REGISTER OF HISTORIC PLACES.**

The NHPA of 1966 authorizes the Secretary of the Interior to create, expand and maintain a National Register of districts, sites, buildings, structures, and objects significant in American history, architecture, archaeology, engineering and culture. The

NHPA also provides that the Secretary will determine the eligibility of properties for inclusion in the NR. Nominations for the NR can be made by the SHPO or the Preservation Officer of a Federal Agency. Although the SHPO is responsible for nominations of all significant properties within his state, he/she may not nominate Federally owned properties without the consent of the Federal Agency in question.

Registration is a joint Federal/State process for evaluating the values and characteristics of historic or archaeological properties and listing them on the NR. The NR is an authoritative guide for use by Federal, State, local and Indian Tribe governments, private groups and citizens in recognizing the Nation's cultural resources to determine which properties should be considered for protection from destruction or impairment. Properties are added as they are identified, evaluated, and recognized as being significant.

Significance is determined by the following criteria: The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and:

- (a) that are associated with events that have made a significant contribution to the broad patterns of our history; or
- (b) that are associated with the lives of persons significant in our past; or
- (c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- (d) that have yielded, or may be likely to yield, information important in prehistory or history [36 CFR § 60.4].

Normally, a property which is less than fifty years old is not considered eligible for the NR, unless "it is of exceptional importance". SRMSC properties do have "exceptional importance". The interim policy statement on Cold War era historic properties, released by the U.S. Army Environmental Center states: "Cold War era properties are buildings, structures, sites, objects, and districts associated with critical events or developments during the Cold War period that possess exceptional importance in terms of NR criteria at 36 CFR 60.4, and such properties may also include outstanding, singular examples of

technological or scientific achievement. When Army Cold War era properties meet the NR criteria, they are considered to be eligible for the NR and are subject to regulation under the NHPA, Section 106 and its implementing regulation 36 CFR 800."

There are five categories of properties that compose the NR:

**District** - A district possesses a significant concentration linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development.

**Site** - A site is the location of a significant event, a prehistoric or historic occupation or activity, or a building structure, whether standing, ruined, or vanished, where the location itself possesses historic, cultural, or archeological value regardless of the value of any existing structure.

**Building** - A building such as a house, barn, church, hotel, or similar construction, is created to shelter any form of human activity. "Building" may also be used to refer to a historically and functionally related unit, such as a courthouse and jail or a house and barn.

**Structure** - The term "structure" is used to distinguish from buildings those constructions made usually for purposes other than creating shelter, such as dams or bridges.

**Object** - An object is constructed or sculpted and has functional, aesthetic, cultural, historic or scientific value such as a statue or fountain.

SRMSC is a concentration of both buildings and structures that are linked by a common historic context. The SRMSC is eligible for the NR as three historic districts; the MSR, the PAR and RSL-3. As part of its caretaker status, there will be few if any projects that would affect the properties at the MSR or RSL-3. The PAR is an operationally dynamic installation that constantly requires alterations in its mission. As such, facilities on the installation often require upgrading and renovation to meet current defense needs. The USASMDC will consult with the North Dakota SHPO under Section 106 of the NHPA for any projects that could adversely impact the integrity of NR eligible properties.

Although the USASMDC realizes the significance and eligibility of most SRMSC properties, it has decided to not nominate most of these properties to the NR. This

decision is based on several factors. The future of the SRMSC, especially the MSR and RSLs, is uncertain. Additionally, Army Regulation 200-4, 3-2, c (1) states that the Army will formally nominate only properties that it intends to interpret, commemorate, or otherwise actively manage as sites of popular interest that are normally open to the general public.

These properties receive the same consideration and protection as “eligible” properties as they would as “listed” properties. As a result of the protection already in place for these properties, it would not be in the USASMDC’s or the American taxpayer’s best interest to invest funds into the nomination process until firm decisions are made concerning the future of the complex. The USASMDC is considering the possibility of proceeding with the nomination of RSL-3, as that property’s preservation status is more certain at this time.

## **5.5 CULTURAL LANDSCAPE APPROACH TO PRESERVATION PLANNING**

### **5.5.1 The SRMSC Cultural Landscape**

DA Pam 200-4 suggests that the Cultural Landscape Approach to preservation planning be utilized in preparation of a CRMP. This approach is designed for military installations that comprise many acres and terrain features that have many eras of human habitation evident. Archaeological deposits, historic structures and features and a pattern of human land use establish habitation. The SRMSC is unusual in that it is small in size and that cultural resources are limited to Cold War era facilities. Although some of the land had been farmed before construction, there were no known pre-historic or historic habitation or traditional use sites on SRMSC land. Any earlier sites that may have existed were destroyed by massive ground disturbance that covered essentially all of the acreage. The multi-era, multi-layered record of human habitation and use normally associated with the Cultural Landscape approach does not exist at the SRMSC. Instead, only a homogeneous, Cold War context prevails at these properties.

**TABLE 5 – 1****MISSILE SITE RADAR FACILITIES**

<b>Building No.</b>	<b>Description</b>	<b>Type</b>	<b>Eligibility</b>
301	Resident Engineers Office	Soft	No
306	Exchange Service Station	Soft	No
340	Post Chapel	Soft	No
346	Gymnasium	Soft	No
350	Community Center	Soft	No
360	Installation Headquarters	Soft	No
364	Industrial Building	Soft	No
369	Fresh Water Pump House	Soft	No
370	Water Storage Reservoir (encl)	Soft	No
371	Polar Co. Telephone Building	Soft	No
384	Pump House	Soft	No
385	Waste Stabilization Pond	Soft	No
401	Limited Area Sentry Station	Nondebris	Yes
	Limited Area Security Fence	Nondebris	Yes
420	Water Storage Reservoir (open)	Hardened	Yes
423	Heat Sink	Hardened	Yes
430	Missile Site Control Building	Hardened	Yes
435	Pers. Equip. & Utility Tunnel	Hardened	Yes
440	MSR Power Plant	Hardened	Yes
455	Universal Missile Building	Nondebris	Yes
456	Warhead Handling Building	Nondebris	Yes
460	Exclusion Area Sentry Station	Nondebris	Yes
	Exclusion Area Security Fence	Nondebris	Yes
470	Launch Area Utility Tunnel	Hardened	Yes
501-530	Spartan Launch Stations	Hardened	Yes
541-556	Sprint Launch Stations	Hardened	Yes

**TABLE 5 – 2****PERIMETER ACQUISITION RADAR SITE FACILITIES**

<b>Building No.</b>	<b>Description</b>	<b>Type</b>	<b>Eligibility</b>
801	Limited Area Sentry Station	Nondebris	Yes
	Limited Area Security Fence	Nondebris	Yes
805	Fuel Oil Pump Station	Nondebris	Yes
807	Cooling Tower	Hardened	No
809	Cooling Tower	Hardened	No
811	Liquid Nitrogen Storage Tank "A"	Soft	No
812	Liquid Nitrogen Storage Tank "B"	Soft	No
813	Heat Sink	Hardened	Yes
815	Storage Tank	Soft	No
820	PAR Power Plant	Hardened	Yes
825	Utility Tunnel	Hardened	Yes
830	Perimeter Acquisition Radar Building	Hardened	Yes
831	Loading/Unloading Dock	Hardened	No
842	Fuel Oil Vault	Hardened	No
702	Fire Station	Soft	Yes
704	Flagpole	Soft	Yes
705	Resident Engineer Office	Soft	Yes
706	Electrical/Plumbing Shop	Soft	Yes
707	Community Center	Soft	Yes



<b>PERIMETER ACQUISITION RADAR SITE FACILITIES (cont)</b>			
708	Bachelor Officers' Quarters	Soft	Yes
709	Dispensary (used for storage)	Soft	Yes
710	Electrical Switch Station (5)	Soft	No
712	TV Antenna Building	Soft	No
713	Electrical Switch Station (3)	Soft	No
715	Gymnasium	Soft	Yes
716	Ballfield	Soft	Yes
718	Helicopter Landing Pad	Soft	Yes
720	Bachelor Enlisted Quarters	Soft	Yes
721	Electrical Switch Station (4)	Soft	No
722	Playground, Family Housing	Soft	No
724	Pavilion, Playground Area	Soft	No
726	Controlled Area Sentry Station	Soft	Yes
727	Gas Station	Soft	Yes
728	Diesel Station (no building)	Soft	Yes
730	Industrial Building	Soft	Yes
731	Storage/General Purpose Shed	Soft	No
732	Electrical Switch Station (2)	Soft	No
735	Fresh Water Pump House	Soft	Yes
736	Open Storage Reservoir	Soft	Yes
737	Water Storage Reservoir (encl)	Soft	Yes
738	Pavilion (BOQ Area)	Soft	Yes
740	Commercial Power Substation	Soft	Yes
741	Electrical Switch Station (1)	Soft	No
760	Waste Stabilization Pond	Soft	Yes
770	Pressure Regulating Metering Station	Soft	No
1000,1001, 1002,1003, 1004,1006	Family Housing Units - Duplex (w/Detached Storage Units)	Soft	No

**TABLE 5 – 3**  
**REMOTE SPRINT LAUNCH SITE FACILITIES**

Building No.	Description	Type	Eligibility
<b>RSL - 1</b>			
1101	Limited Area Sentry Station	Soft	Yes
1110	Remote Launch Operations Building (RLOB)	Hardened	Yes
1135	Waste Stabilization Pond	Soft	Yes
1501-1512	Sprint Launch Stations	Hardened	Yes
<b>RSL - 2</b>			
2101	Limited Area Sentry Station	Soft	Yes
2110	Remote Launch Operations Building (RLOB)	Hardened	Yes
2135	Waste Stabilization Pond	Soft	Yes
2501-1512	Sprint Launch Stations	Hardened	Yes
<b>RSL - 3</b>			
3101	Limited Area Sentry Station	Soft	Yes
3110	Remote Launch Operations Building (RLOB)	Hardened	Yes
3115	Exclusion Area Sentry Station	Soft	Yes
	Exclusion Area Fence	Nondebris	Yes
3135	Waste Stabilization Pond	Soft	Yes
3501-3512	Sprint Launch Stations	Hardened	Yes
5401	Pump House at Senator Young Dam on Tongue River	Soft	No
<b>RSL - 4</b>			
4101	Limited Area Sentry Station	Soft	Yes
4110	Remote Launch Operations Building (RLOB)	Hardened	Yes
4135	Waste Stabilization Pond	Soft	Yes
4501-4514	Sprint Launch Stations	Hardened	Yes

The site also is unusual in that it is not an evolving landscape as is seen at most military installations. At active installations the landscape is modified as the military culture and use evolves over a period of time. Most of the SRMSC is static, no new building occurs on the Army used portion of the complex. Indeed most structures are slowly degrading, and many of the most significant will be demolished should a new NMD system be required. The future of the site as a whole is uncertain at this point. Change, if it occurs, will be swift and final.

Although most of the SRMSC does not have an extensive cultural landscape with its own historic context, the installations have affected the cultural landscape of the northeast North Dakota region as a whole. The MSCB and the PARB have become prominent landmarks and visual elements of the area. These elements have become as much a part of the local landscape as the grain silos and fields that share the horizon.

### **5.5.2 The SRMSC Social History and Landscape**

The cultural landscape of many installations is also influenced by the social history of a site. This influence is very limited at the SRMSC. The MSR and RSLs are the least influenced. The PAR, which is still being operated by the U.S. Air Force has developed a social history of its own, although it is not within the context of the SRMSC.

**The MSR and RSLs** - Soon after the construction began at the site in 1970, a small contingent of military personnel and civilians were assigned to oversee the activities. The Site Activation Command remained a small body of military personnel and government civilians, never exceeding 123 employees. The peak year for Safeguard personnel was 1972. During October of that month, there were over 3,000 employees at the various Safeguard sites. Most of these, however, were construction and technical contractor staff. The military and government civilians totaled only 356. This figure would not rise until the period around the equipment readiness date and the hand-over from the Army Corp of Engineers.

The Safeguard command was established in 1974 to oversee the testing and command and control of the facilities. The number of employees increased gradually as personnel were phased in according to the needs of the program. In 1975 the required and

authorized strength of the command was given as 448 military and 135 civilian employees. Soon thereafter, the facilities on the complex began to close their doors in preparation for the inactivation of the command and mission. Following a gradual draw down, the SRMSC was closed on 31 August 1976.

The military community at the SRMSC existed for a very short duration. Prior to 1975, the military/government civilian contingent numbered less than one-sixth of the total number of people working at the site. Only after the hand-over from the Corps of Engineers, did the number of government personnel exceed the contractor temporary support personnel. The Safeguard Command was at full strength probably from only January 1975 to March 1976. In addition, the elements which would define a community, for example, the newspaper and the church ceased operations in May 1976. Based on these factors, a military related social history at the SRMSC never did fully develop, and ceased less than a year after it began.

**The PAR site** - The PAR was out-leased to the U.S. Air Force in 1977, two years after it was deactivated by the U.S. Army. It was renamed Cavalier Air Station after the nearby town of Cavalier. Cavalier Air Station has been passed through several Air Force major commands since 1977 (including the Strategic Air Command) and has been considered for deactivation on several occasions. Currently the installation is part of the U.S. Air Force Space Command, based in Colorado Springs, Colorado. Upgrade and changes in the original Safeguard radar software have allowed the Air Force to use the PAR as a missile early warning and space surveillance system. That mission has remained unchanged since 1977.

Cavalier Air Station employs approximately 150 personnel. Thirty of these are Air Force service members, the remainder are civilian contractors. The contractor staff includes the police force, maintenance personnel, power plant technicians, radar technicians and base operations personnel. The Air Force personnel include the Commander and staff, technicians, and administrative, supply and internal security personnel. The internal security personnel are rotated in to Cavalier Air Station on three day shifts from Grand Forks Air Force Base (GFAFB) 90 miles away. They are not permanently assigned to Cavalier, nor do they have a habitual temporary duty association with the site.

Assignment to Cavalier Air Station is one of only three tours considered by the Air Force to be a “CONUS Isolated” assignment. Minimum tour lengths for unaccompanied personnel are 15 months, and for accompanied personnel 24 months. At any given time, 15 service members will be living in the dormitory and up to 12 of the family housing units (six duplexes) could be occupied. Children of service members attend school in the towns of Cavalier and Walhalla. Assignments are so short at Cavalier that often a transient attitude is adopted by personnel assigned there. Service members seldom have a chance to fully integrate themselves into local community activities. Cavalier Air Station has a host-tenant support agreement with GFAFB. Military and medical records for Cavalier personnel are located at GFAFB, as that installation has an intra-agency agreement with the Air Force Space Command to perform personnel, supply and administrative functions for service members assigned to Cavalier.



**Tunnel Entrance to the Missile Site Control Building**

## **6.1 INTRODUCTION**

As discussed previously in this CRMP, Cultural Resource Planning at the SRMSC will be performed in two independent, but closely related, phases. The first phase, discussed in this chapter, will be the accomplishment of routine repair and maintenance activities necessary to stabilize NR eligible properties at the SRMSC. The second phase, discussed in Chapter 7.0, will be the accomplishment of undertakings in accordance with Section 106 of NHPA and AR 200-4. Chapter 7.0 will also address unexpected discoveries of cultural resources.

The main intent of this CRMP, and specifically this chapter, is to insure that historic preservation requirements are addressed and taken into consideration during any type of planning at SRMSC which may impact these resources. These requirements will be incorporated into normal operations and maintenance, land use planning, annual work plans, military construction planning and design, and actual preservation, restoration and rehabilitation of NR eligible buildings.

This chapter will begin by discussing the current SRMSC mission, ongoing maintenance and repair activities, and future USASMDC and DoD plans for the SRMSC which could affect the SRMSC NR eligible properties. This chapter will then discuss facility deterioration threats which are most likely to occur at the SRMSC, and will conclude by establishing routine maintenance, inspection, and repair processes to stabilize NR eligible properties at the SRMSC.

## **6.2 CURRENT SRMSC MISSION**

The MSR, and all four RSLs, are held in caretaker status by the USASMDC. The only ongoing activities at these facilities are routine maintenance, the repair of infrastructure and facilities as determined to be necessary by maintenance inspections, and activities necessary to achieve compliance with environmental and other public health and safety

laws and regulations. No change to the caretaker status is presently planned or funded by USASMDC or DoD.

The PAR is leased to the U.S. Air Force as Cavalier Air Station, and remains in use as a radar sensor for the North American Air Defense Command and Satellite Surveillance Network. The U.S. Air Force intends to continue operating the PAR in its present mode, and at its present level of activities, for the foreseeable future.

### **6.3 SRMSC ROUTINE INSTALLATION MANAGEMENT**

USASMDC is continuing to perform maintenance and repair work necessary to stabilize the nation's only ABM Cold War site, as well as performing environmental compliance efforts. In accordance with the Programmatic Agreement that was signed in 1997, Army and Air Force personnel may perform routine installation maintenance activities associated with infrastructure and building repair and rehabilitation (e.g., painting, electrical repair/maintenance, roof maintenance, road resurfacing, and utility repair etc.) without Section 106 consultation with the North Dakota SHPO.

Additionally, those activities which do not have a visual impact or physically alter or degrade the historic character of a building or historic district may be done without SHPO consultation. However, any activity with the potential to impact the eligibility criteria for eligible structures will be subject to Section 106 consultation prior to implementation. This could include, but is not limited to: alteration of ground contours, electrical equipment replacement and removal, changes to the façade or other visual elements of buildings, razing or demolition of buildings, relocation of buildings or ancillary structures such as sidewalks, roads, or fences. New buildings will be designed to match the general architectural styles and colors of the existing buildings in historic districts (see Section 6.8). The USASMDC will also ensure that repair maintenance, and rehabilitation of all eligible structures will be performed in accordance with the *Secretary of the Interior's Standards for Rehabilitation and Guidelines for Historic Buildings* (see Appendix D).



#### **6.4 MITIGATION MEASURES, INCLUDING THE HISTORIC AMERICAN ENGINEERING RECORD (HAER)**

In situations where cultural resources will be irrevocably significantly affected by an undertaking, several mitigations can be put in place. In these cases the mitigation is geared to recovering as much information about the resource as possible to insure that the data is not lost to current and future scholars. In the case of archaeological sites, this is accomplished by a data recovery project (the classic archaeological “dig”) that will extract all the information possible from a site. Of course a data recovery not only recovers all the information a property might hold, it also destroys the site in the process.

In the case of standing historic structures, the equivalent of a data recovery is the Historic American Buildings Survey (HABS) or the Historic American Engineering Record (HAER). A HABS is used for buildings associated with a historic event, person or architectural style. The HAER is for structures that were, in themselves, significant engineering accomplishments.

In 1993, the USASMDC made the decision to prepare HAER documentation for the tactical areas of the SRMSC in preparation for a possible new deployment of an ABM system. Most of the non-tactical buildings were also recorded. The SRMSC HAER is one of largest and most comprehensive recordings of its type ever prepared. The data is presented in several parts. First, it provides a detailed historic context for the complex as a whole. Second it provides historical background, construction drawings and photographs on over 60 buildings. And finally, the most significant and complex buildings, such as the MSCB, PAR and RLOBs have multiple photographs, drawings and enhanced historical information. Representative information for both a Sprint and Spartan Missile launch silo is provided to record all of the Spartan (30) and Sprint (70) silos. The SRMSC HAER has been deposited at the Library of Congress, and the North Dakota State Historical Society, where current and future Cold War scholars may have access to this important historical resource.

Although plans to deploy a new system at SRMSC were abandoned, the USASMDC has already completed the most stringent mitigation measure that could be performed for the demolition of a historic property with the completion of the HAER for the SRMSC. Future undertakings that may affect historic properties will be considered in consultation with the North Dakota SHPO to determine if additional mitigations may be required. If the SHPO, local historical organizations or other interested parties have an interest in further photo or video recordation at the SRMSC, the USASMDC will make every effort to allow access to properties before the commencement of any alterations to the sites. The granting of access will be subject to the safety, scheduling and security needs of the USASMDC.

## **6.5 PRESERVATION THREATS AT SRMSC**

### **6.5.1 Introduction**

The phase-out and abandonment of the SRMSC facility began with its inactivation in February 1976. Only the PAR component of the system was left in use, becoming the Cavalier Air Station. As a result of its continuous usage, the PAR site has received regular and routine maintenance, and is generally in a better condition of preservation than the MSR and the four RSLs.

The nontactical portion of the MSR was excessed to the GSA in 1977 and was then utilized by the now defunct Youth Activity Corps. In 1982 the Department of the Interior (DOI) was given jurisdiction of the MSR. While in DOI's possession, maintenance and repair of many buildings was neglected. The severe winter seasons during this period posed a problem, resulting in significant damage to many of the structures.

In 1991 the U.S. Army Strategic Defense Command (now USASMDC) reacquired this land. By this time the MSCB had flooded. Salvaging at the site had left an access for ground water to seep in and a mammoth effort was required to remove the water. Other buildings considered hazardous were dismantled. A few were repairable and have been

restored to assist in their protection from climatic conditions. The remaining domestic structures were removed for use as housing facilities in other locations. In 1991 a building availability and conditions survey was conducted to provide a description of the current status of the SRMSC facilities and to make recommendations for the repair or disposal of various components of the facility.

### 6.5.2 Overview of Buildings and Structure Types

Nuclear-resistant architecture was required by the military establishment to protect strategic defense installations and important urban/industrial centers. Nuclear and civil defense planning shifted from a reliance upon bomb shelters dating from the World War II period, to the development during the 1960s of an effective ABM system relying on "hardened" facilities. A "hardened" facility is a heavily reinforced concrete structure designed to withstand the over-pressure and shock spectra of a nuclear blast, as well as the effects of electromagnetic pulse (EMP). Resistance to radio frequency interference (RFI) was also a factor in designing a "hardened" structure. An extensive design program was well underway by 1968, culminating in the Safeguard development effort.

The various buildings and structures of the SRMSC are categorized as follows:

1. **Hardened Facilities** - Facilities constructed of nuclear resistant architecture design, "hardened" to withstand the blast, shock, heat and electrical effects of nuclear weaponry (Bell Laboratories 1975).
2. **Non-Debris** - Facilities that were "hardened" to the extent that, under nuclear attack, their components would not form debris that would restrict or interfere with tactical operations (U.S. Army Corps of Engineers n.d.).
3. **Soft** - All of these structures were of conventional "soft" construction, expendable in case of attack, and neither their design nor their erection during 1971 offered any noteworthy features (Kitchens 1978).

### **6.5.3 Construction Materials, Threats, and Maintenance Procedures**

#### **6.5.3.1 Concrete Construction and Deterioration**

Reinforced concrete is the principal building material at the six SRMSC sites. It is one of the most versatile and durable materials available for building construction. Quality design, proper materials and reasonable maintenance can extend the life of concrete structures nearly indefinitely. However, structures lacking proper design, construction and maintenance can and will deteriorate rapidly.

Concrete is made by combining cement, water and aggregate into a uniformly mixed substance. The combined cement and water form a paste that holds the aggregate together in a binding action known as hydration. The permeability of concrete is directly related to its porosity. A concrete mixture that contains the minimum feasible amount of water should be considered, as less water increases the durability of the concrete. Water reduction is generally achieved by the addition of various admixtures. Other admixtures can be included to provide for air entraining, set-retardance and set-acceleration.

There are two types of concrete deficiencies: (1) lack of durability, which can result from many causes, and (2) structural failure, which is generally related to a design deficiency or overload condition (natural: earthquake, or man-made). The major contributor to nearly all durability problems involves the permeation of concrete with water, other liquids, air or gas. Most of these problems can be handled through general repair and maintenance procedures. However, structural failure is a problem type that is generally beyond remedial maintenance.

There are three basic visual symptoms of distress: cracking, spalling, and disintegration (surface). Each of these occurs in several forms with each form having a different "signature." Generally the concrete used in all construction at the SRMSC is of extremely good quality and construction. The tactical structures were built to withstand nuclear blasts. This "hardened" concrete construction was even applied to electrical vaults and culverts. Very little spalling and surface disintegration has been discovered to date.

## **6.6 EXISTING CONDITION REPORT - BUILDING/STRUCTURE CONSTRUCTION AND MATERIALS**

### **6.6.1 Introduction**

The SRMSC sites are known for their weather extremes, with temperatures ranging from 100 degrees Fahrenheit to -40 degrees Fahrenheit. The region is subject to frequent ground blizzards and there has been substantial winter damage since the closure of the complex due to the lack of maintenance to the unattended structures. The typical construction season at the SRMSC sites was curtailed and required mandatory enclosed work areas. Sustained two-shift construction operations made use of long, warm dry days to complete steel and concrete construction as rapidly as possible. A third night shift with artificial lighting was also employed (Earth Technology Corp. MSR, 1993).

### **6.6.2 The MSR Site**

The MSR site consists of approximately 432 acres. The site was divided into a controlled area, a limited area, and a community center area. The MSCB was completed in 1973. Concern developed for offsetting the effects of nuclear EMP. As a result, nearly 3/5 of the MSCB structure required EMP/RFI shielding, which could not be achieved by welded rebar or embedded wire mesh in the concrete. The solution was the installation of metal liner-plate shielding (11-gauge steel) for the entire building. This worked especially well in that it could be electrically welded at its seams and was utilized as a form material when pouring the concrete walls and structure. The result was a room-by-room steel liner plating of the floors, walls and ceilings.

Between December 1975 and 1977, all missiles were removed from the site, the missile silos were sealed and the MSCB was salvaged and sealed. Many support beams, stair rails, etc. were removed from the MSCB at that time. A consequence of the salvage operations was that openings were left in the building's exterior shell, permitting rainfall, melting snow and groundwater to enter the structure. The MSRPP interior was also

salvaged. At the MSR site, 150 tons of delaminated building material were removed from the MSCB lower level and the MSRPP and miscellaneous debris and floor tiles were removed from 6 rooms (including the entire steel floor of the Electrical Repair Shop). Additionally, environmental concerns resulted in the removal of lighting ballasts, RF filters and 1" of concrete from the upper portion of the MSCB loading dock. Presently 16 support buildings remain (Earth Technology Corp. MSR, 1993).

### **6.6.3 Construction and Materials at the MSR Site**

1. The MSCB (Building 430) - This is a partially buried reinforced concrete structure of five levels (2 stories of which are subterranean). It has a 2 foot earth cover at the high underground portion. This structure has been in caretaker status since 1978. Prior to this, the building was salvaged, permitting later flood damage to the MSCB and MSRPP (as mentioned previously).
  - A. Foundations - sits on a 4 foot thick reinforced concrete slab
  - B. Walls - 3 foot thick reinforced concrete walls (shear walls); exterior MSCB walls (including subterranean portion, covered with waterproof coating
  - C. Systems - corrosion protection provided for buried conductors for electrical, communication, etc.
  - D. Openings - two emergency escape doors (heavy, blast resistant)
  - E. Tunnels - Three tunnels are associated with this structure:
    1. 100 foot long emergency escape tunnel, had bituminous flooring.
    2. Personnel, Equipment and Utility Tunnel (PEUT) of hardened reinforced concrete, buried; on two levels, with personnel and equipment on lower level, interior walls lined with 11-gauge sheet steel for EMP shielding
    3. Launch Area Utility Tunnel (LAUT): Provides utilities service between the MSCB and the Missile Site Launch Area; corrugated iron pipe

- F. Penetrations - numerous for various equipment connections
- G. Roof - concrete with elastomeric roofing
- H. Interior - each room, corridor and separate enclosure individually lined with steel liner-plate, welded at the seams; only interior non-load-bearing partitions separating rooms within same shielding zones were exceptions; 4 foot x 10 foot sheets butted together and held in place against the concrete walls and ceilings by embedded weld studs attached to the liner plate on 2foot centers; embedded back-up bar provided behind each liner plate seam, all seams continuously welded
  - 1. Stairways - 16 sets
  - 2. Flooring - several flooring variations existed and 60% of floor area was shielded for RFI/EMP protection.
    - a. Liner plate
    - b. Heavy-duty epoxy over concrete
    - c. Vinyl Asbestos Tiles (VAT)
    - d. Standard epoxy
    - e. Liner plate with epoxy paint
    - f. Steel plate ground plane
    - g. Removable VAT panels
    - h. Heavy duty epoxy
    - i. Metal grating
  - 3. Walls - All interior walls and ceilings were lined with 11-gauge steel liner plate continuously welded at seams. Again, several variations were used within the structure.
    - a. Liner plate
    - b. Gypboard
    - c. Wire partitions
    - d. Gypboard without liner plate
    - e. Acoustical treatment
    - f. Exposed concrete
    - g. Exposed metal studs
  - 4. Ceilings -
    - a. Exposed concrete

- b. Liner plate
    - c. Gypboard
    - d. Acoustical treatment
    - e. Luminous ceiling
    - f. Metal decking
    - g. Structural grid
  - 5. Openings - Openings consisted of thirty shielded doors; conventional doors were used between rooms within shielding zones. There are also four ventilation system fire doors.
2. Missile Site Radar Power Plant (MSRPP, Building 440) - "Hardened" reinforced concrete construction. Portions of this structure are both subterranean and covered with earth. Requiring only EMP shielding, the roof is 2.5 foot thick reinforced concrete with air intake and exhaust stacks visible above ground. The exterior underground surface was provided with a waterproof coating and the two story interior had several rooms with 11-gauge steel liner plate shielding. The interior of the MSRPP was salvaged.
  3. Universal Missile Building (UMB, Building 455) - reinforced concrete (non-hardened), non-debris forming one story structure with an earth embankment covering the roof and three sides.
  4. Warhead Handling Building (WHB, Building 456) - reinforced concrete, non-debris forming, single story with earth embankment covering the roof and three sides.
  5. Spartan Launch Station Area (LS, Structures 501-530) - a reinforced rectangular concrete structure (30); buried, sloped 5 degrees (downrange) from the vertical.
  6. Sprint Launch Area (Structures 541-556) - reinforced concrete structures of "hardened" construction, buried vertically underground.



7. Heat Sink (Structure 423) - "Hardened" reinforced concrete construction; subterranean, exposed roof; foundations and concrete footings integral with a concrete floor slab thickened at the edges and columns; supported a suspended concrete slab roof.

#### **6.6.4 The PAR Site**

The PAR site consists of 279 acres and is divided into a controlled area, a limited area and a community center area. The principal building on this site was the PARB completed in 1973. This building has been maintained in excellent condition since operations began. In 1989, an asbestos abatement program resulted in the removal of asbestos from PARB surfaces deemed likely to release airborne particulates into the open spaces above metal office wall panels (Earth Technology Corp. PAR, 1993).

#### **6.6.5 Construction and Materials at the PAR Site**

1. PARB (Building 830) - Construction began in June 1970, with the first two levels of the PARB shell enclosed to permit interior work during the freezing conditions of the North Dakota winter. Complications for this project included determining how the power cables from exposed antenna elements would be fed through the concrete wall. Also required was a single continuous steel shielding envelope for the interior of the building and the utility tunnel. Other special rooms and areas required similar shielding. Constructed of "hardened" reinforced concrete with a 5,000 psi average concrete strength the PARB side wall thickness varies from 2.6 meters at the base to 1.1 meters at the roof. The design includes a shear wall structure with flat slab floors. Within the exterior shear walls are horizontal, vertical and diagonal #11 reinforcement bars. A concrete utility tunnel connects this structure to the PARPP. The PARB has been maintained in excellent condition since operations began. Other components of this structure include:

- A. Openings - 5 blast doors composed of structural steel frames with steel facings and filled with concrete for radiation shielding.
- B. Roof - This slopes towards the rear of the building with drains on each side. It is covered by an EMP shielding envelope of 11-gauge minimum thickness low carbon steel sheet.
- C. Interior - A continuously welded 11-gauge steel plate liner provides a single internal shield envelope penetrating the floor slabs at the intersection of the exterior walls and at the columns at the roof and base slabs. This shielding also covers the inside face of the exterior walls and the utility tunnel. The interior consists of five full floor levels plus a mezzanine floor between the second and third levels.
  - 1. Floor finishes -
    - a. Epoxy paint
    - b. Vinyl asbestos tile
    - c. Troweled on epoxy
    - d. Exposed concrete
    - e. Raised flooring
  - 2. Wall finishes -
    - a. Liner plate with concrete
    - b. Acoustical treatment
    - c. Exposed concrete
    - d. Wire mesh partitions
    - e. Liner plate
    - f. Liner plate with acoustical treatment
    - g. Liquid glaze
  - 3. Ceiling finishes -
    - a. Liner plate
    - b. Liquid glaze
    - c. Exposed concrete
    - d. Acoustical finish
    - e. Metal with concrete

- f. Acoustical treatment
    - g. Luminous ceiling
    - h. Exposed concrete with liner plate
  - 4. Openings - 14 shielded doors
2. PARPP (Building 820) - This structure is partially subterranean and partially earth covered. It consists of two levels and is constructed of "hardened" reinforced concrete. There are eight projecting air intake and exhaust stacks. This building is also shielded by reinforcing bars in the concrete walls.
  3. Fuel Oil Building (Building 805) - This is a two story structure of "soft" permanent construction with concrete slab roof and foundation, concrete walls and concrete floors with a hardener.
  4. Fuel Oil Tank Vault (Building 840) - Of "hardened" reinforced concrete construction, this is a subterranean vault and tanks. The roof of the vault is exposed and it has concrete slab foundations.
  5. Heat Sink (Building 813) - This structure is below ground except for its roof and manhole access. Its suspended roof, columns and floor slab are constructed of "hardened" reinforced concrete.
  6. Limited Area Sentry Station (LASS, Building 801) - This is a one story building of "soft" construction with reinforced concrete footings, concrete block walls, and an insulated roof with built-up roofing on metal decking and steel frame.
  7. Cooling Tower (Building 807) - Although of metal construction with a concrete foundation this is a "soft" structure.
  8. Utility Tunnel (Structure 825) - This structure is "hardened" reinforced concrete construction and has two emergency exits.

9. Non-tactical Support Facilities that remain include the Industrial Building (730), the Enlisted men's quarters and dining complex (720), the Officers' quarters complex (708), the Dispensary (709) and the Gymnasium (715).

#### **6.6.6 The RSL Sites (4)**

The Remote Sprint Launch Sites were closed down by 1977 and all missiles were removed from the silo launchers. The silos were sealed and the buildings were also salvaged and sealed. (Except for the PAR, the SRMSC was essentially abandoned from 1978 until December 1989). In 1989 an on-site environmental inspection found various facilities containing PCBs. Mitigation resulted in 3 inches of concrete being removed from the upper portion of the RSL-4 concrete transformer pad and lighting ballasts, as well as radio frequency filters were removed from all RSL sites (Earth Technology Corp. RSL, 1993).

#### **6.6.7 Construction and Materials at the RSL Sites**

The architectural character of these four RSL sites is basically identical. The facilities are considerably deteriorated as a result of their sealing, salvaging and abandonment. The RSL-1 site consisted of 40 acres, RSL-2 is 36 acres, RSL-3 is 43 acres and RSL-4 is 50 acres.

At each site the principal structure was the RLOB. This is an earth covered "hardened" reinforced concrete structure of 36 rooms. Each was of an identical design with the exception of the entry tunnels. They also required shielding like the MSCB and PARB and had exposed air intake and exhaust stacks extended above grade. The basic description of each RLOB is as follows:

1. Structural system - Concrete, reinforced with rebar and lined with steel plate.
2. Foundations - Consist of a 31 inch thick reinforced concrete slab with a 4 inch thick concrete sub-slab.

3. Walls - 2.5 foot thick reinforced concrete.
4. Openings - each RLOB has 4 blast doors, a radiation door and an emergency escape hatch.
5. Roof - concrete slab 2.0 foot thick, covered with 3 foot of earth fill.
6. Tunnels - Length varies between sites; width and height 11 foot square; reinforced concrete design.
7. Interior -
  - A. Flooring -
    1. Epoxy over concrete
    2. Concrete floor hardener
    3. VAT
    4. VAT on shock-isolated platforms and painted liner plate
    5. VAT on removable panels
  - B. Walls - each room, corridor and separate enclosure was individually lined with 11-gauge steel liner plate
    1. Exposed concrete
    2. Concrete with gypboard
    3. Liner plate
    4. Acoustical treatment
  - C. Ceiling -
    1. Exposed concrete
    2. Acoustical lay-in panel
    3. Liner plate
  - D. Doors - 7 shield doors in each RLOB; doors in interior walls between rooms within the same EMP/RFI shielding zone were conventional; doors between shielding zones were provided with sheet steel jacket and conductive gaskets or metal finger stock around the perimeter; door casing seal-welded to the liner plate.

Other structures at each site included the following:

1. RSL-1

- A. LASS (Building 1101) - This is a one-story concrete building of permanent construction.
  - B. Heat Sinks (2, structures 1120-1121) - Both are of reinforced concrete construction and are subterranean structures.
  - C. Fuel Oil Tank (structure 1125) - This was a "hardened" reinforced concrete structure that housed an underground steel tank.
  - D. Sprint Launch Stations (1-12, Structures 1501-1512) - These are "hardened" reinforced concrete and steel stations with concrete aprons at grade and a reinforced concrete slab foundation 32 feet below grade.
2. RSL-2: The following structures are similar to those at RSL-1:
- A. LASS (Building 2101)
  - B. Heat Sinks (Structures 2120-2121)
  - C. Fuel Oil Tank (Structure 2125)
  - D. Sprint Launch Stations (1-12, structures 2501-2512)
3. RSL-3: The following structures are similar to those at RSL-1:
- A. LASS (Building 3101)
  - B. EASS (Building 3115)
  - C. Heat Sink (Structures 3120-3121)
  - D. Fuel Oil Tank (3125)
  - E. Sprint Launch Stations (1-16, structures 3501-3516)
4. RSL-4: The following structures are similar to those at RSL-1:
- A. LASS (Building 4101): this structure was used to test simulated terrorist bomb blast effects, no structural damage and only slight interior damage
  - B. Heat Sinks (Structures 4120-4121)
  - C. Fuel Oil Tank (Structure 4125)
  - D. Sprint Launch Stations (1-14, structures 4501-4514)

## **6.7 PRESERVATION & MAINTENANCE PLANNING**

### **6.7.1 Historic Buildings and Continuing Maintenance**

The major objective of a continuing maintenance plan is to ensure that the exterior (and interior) of a building and its various materials and components are and remain weather-tight and able to resist the continued pressure of natural material weathering. This is a process that, while it cannot be stopped completely, can be retarded to extend the natural life of the building materials. Water penetration - at the roof and roof drainage system, flashing, through windows and doors or the walls - is the major culprit attempting to increase the rate of material deterioration.

Traditional building materials used in the construction of most historic buildings include stone, brick, wood, glass, and sheet metals on the exterior and wood, plaster, and decorative wall and ceiling finishes on the interior. Each material has particular strengths, weaknesses, and potential problems that must be considered in the development of an overall continuing maintenance plan for any building.

The first phase of developing a continuing maintenance plan usually involves a visual inspection and survey of the exterior and interior of the building and its components to note the types of materials used, their location, the types of problems occurring, and where these problems are occurring. Based on this body of information a maintenance plan can begin to be developed.

As maintenance priorities vary with respect to the type of use, materials, and other particulars of a structure, historic building maintenance has, as its goal, not only the cyclical maintenance, but also the continued, long-term preservation of the structure. The techniques and materials used in the maintenance process require careful testing and evaluation with respect to their short and long term impact on a building's various materials and components. The major objective is high quality maintenance that will retard the natural process of material deterioration.

### **6.7.2 Current Army and Air Force Maintenance and Repair Programs**

The Army and Air Force have well established facility maintenance and repair programs that have been in use and refined over many years. These programs place emphasis on sustaining appearance, structural soundness, utility, and longest possible useful life for all facilities. The primary elements in the Army and Air Force programs include:

1. Performance of pre-defined standard recurring maintenance tasks to preserve functionality and minimize deterioration. These items are normally given the highest priority to minimize failures and prevent crisis response to maintenance and repair requirements.
2. Recurring inspections of facilities and infrastructure to identify maintenance or repairs required that are not included in the recurring maintenance tasks.
3. A system of receiving and documenting requests for repair from facility occupants and managers.
4. A systematic method of defining identified repairs and maintenance in a written record, planning work projects to identify material and labor requirements and costs, establishing priorities for all work, and assigning available resources to work requirements based on established priorities.
5. Reviewing each identified work requirement for environmental impacts, historic property or cultural resource impacts, safety issues, security issues, engineering efficiency and effectiveness of the planned work (engineering design as required), siting of new construction, and any other special considerations that impact the requirement. Unique requirements are coordinated and incorporated in the project definition prior to assignment to a work performance agent. In most cases funds will not be assigned to a project without written documentation that all special considerations have been evaluated and properly coordinated. (See Paragraph 6.7.4)
6. Development of an annual work plan each year to allocate available monetary, material, and manpower resources to prioritized work.



7. Development of an installation Master Plan to provide overall coordination and management of long term installation requirements and define criteria for development.
8. Based on historic experience, maintain a reserve of resources for emergency requirements that can not be pre identified.
9. Detailed record keeping of work performed, materials used, and cost.
10. Use of qualified craft persons to perform all work.
11. Use of good quality materials in all work.

The requirements to maintain and repair facilities and infrastructure on a military installation almost always outweigh the available resources. Mission requirements and available funds are the two primary factors that dictate what work requirements are met. It is important to understand that mission sustainment is considered the highest priority for military installations.

### **6.7.3 Maintenance and Repair at Stanley R. Mickelsen Safeguard Complex**

The normal concepts of maintenance and repair as defined in the above paragraph are employed by the Air Force at the PAR Site and by the Army at the MSR Site and Remote Sprint Launch (RSL) sites. However, there is a distinction to be made between properties in a caretaker status at the MSR and RSLs and the properties at the PAR Site, which is an active installation.

### **MSR AND RSL CARETAKER PROPERTIES**

The funding available for maintenance and repair of caretaker properties is quite limited due to the uncertainty of future use of this property. Therefore, facility maintenance is normally limited to preservation of exterior facility envelopes. Also, the caretaker properties were unused and had minimum maintenance for several years as discussed in

other portions of this CRMP. This caused these properties to deteriorate more rapidly over the past 20 years. Since there is currently no direct mission for these facilities, the high priority for funding generated by mission requirements is lacking. Resources are simply not available to restore facilities to a fully functional condition. Available resources are used to maintain reusable facilities in a recoverable condition in case it is decided to activate a new mission at these properties. In the current status, there are few projects or activities that would require consultations under the 106 process.

## **PAR SITE PROPERTIES**

The Missile Early Warning and Space Surveillance mission performed by the Air Force at the PAR site is a high priority requirement for national defense and is funded at a much greater level than caretaker properties. The PAR site has been in active use since it was constructed and the facilities and infrastructure there are generally in very good condition inside and out -- a testament to the effectiveness of the Army and Air Force maintenance and repair system. Funding to support this site by the Air Force will continue to be at levels required to support the mission for the foreseeable future. Sustainment of most facilities and infrastructure at the PAR site is inherent in the existing system. However, the fact that the PAR site has an active mission also means there is a greater potential for work that may require coordination under the NHPA Section 106 process. There is a greater possibility that changes in mission needs or new technology will require modifications that could have impacts on historical properties.

### **6.7.4 Historic Property Considerations**

Command personnel, managers, supervisors, and workers at the Stanley R. Mickelsen Safeguard Complex, both Air Force and Army, are aware that there are potential historic properties at these sites that require special consideration. A process has been implemented for the past few years to systematically evaluate work for impacts. The

focal person for this process is the Army Facility Engineer assigned to the complex. This individual reviews all significant work items planned by both the Air Force and the Army. He attends environmental and work planning meetings and is kept aware of planned activities of both the Air Force and Army. Any potential impacts are evaluated for avoidance or mitigation alternatives. Informal discussions with the SHPO are initiated as necessary. Consideration is given to the existing Programmatic Agreement to eliminate unnecessary coordination and administrative actions. Recommended actions and initiation of the Section 106 process is necessary, is coordinated at local and command levels prior to initiating formal SHPO correspondence. Primary DoD coordinating agents are the Base Engineer and Base Environmental Coordinator at the PAR Site, PAR Site Commander, U.S. Army Space and Missile Defense Command Historic Office, Environmental Office, and Chief of Staff for Engineering. Other agencies and interested parties are involved in the coordination process as required.

Design criteria for modifications, additions, maintenance, and repair activities for historic structures at Stanley R. Mickelsen Safeguard Complex will include requirements for consideration of the Secretary of the Interior's Standards for Design and Rehabilitation as outlined in Section 6.8.

## **6.8 GUIDELINES FOR DESIGN AND REHABILITATION**

### **6.8.1 Incorporating the Secretary of the Interior's Standards**

Evolving technology and changing missions frequently place demands on the buildings and structures now considered historically important at SRMSC that they were not designed to accommodate. The original concrete materials used are hard and inflexible. The structural modules and spatial arrangements reflect technology and functional relationships that were designed for very specific purposes but which are no longer in use or are in the course of being adapted for different functions.

The various complex components are not typical of many historic (pre-1945) installations. In terms of materials and planning, their design was highly functional, with little emphasis being placed on aesthetics.

Where new uses are to be imposed on the buildings, structural and systems changes may need to be altered, potentially adversely impacting the original engineering, spatial and design relationships which are crucial to the character of the buildings. The materials in this section are intended to provide recommendations that can guide future maintenance or modifications to the buildings in a manner that will preserve their significant architectural and engineering features while meeting changes in function and site operation. This goal is consistent with the Secretary of the Interior's Standards definition of Rehabilitation: "... the process of returning a property to a state of utility, through repair or alteration, which makes possible an efficient contemporary use while preserving those portions and features of the property which are significant to its historic, architectural, and cultural values."

As rehabilitation and maintenance projects are developed at the various sites of the SRMSC, it is essential that all ten of the Secretary of the Interior's "Standards for Rehabilitation" are incorporated into the pre-planning for these projects. The successful application of these standards requires that the character defining materials and features be delineated for each building and that the work necessary to make possible an efficient contemporary use have the least possible impact on those materials and features. The following recommendations have been developed to assist in the design and planning for anticipated projects.

### **6.8.2 Design Guidelines for Service, Administrative, Industrial and Infrastructure Buildings and Structures**

Due to the similarity of design, materials, and alterations, general design and rehabilitation guidelines have been developed for these structures.

### **6.8.2.1 Site and Setting**

General Approach: Buildings should retain their original site and setting as much as possible. Retain traditional relationships between open spaces, buildings, paving and landscape features.

1. Retain original spacing between buildings.
2. Avoid intrusions into spaces between buildings.
3. HVAC and other mechanical units should be masked through landscaping or appropriate fences.
4. Plants native to North Dakota are most appropriate for landscaping.
5. Landscaping should not obscure or overly conceal the primary and readily-visible secondary facades of buildings.

### **6.8.2.2 Form and Plan**

General Approach: The original form, plan, and site and setting of the buildings should be preserved and maintained.

1. The form and plan of the buildings should not be altered on the primary or readily visible side facades. If required, additions should be developed on rear or side facades not readily visible from the street.
2. The form and pitch of roofs should not be altered. New dormers, upper floor windows, skylights, and solar panels should only be added to rear or non-readily visible side facades. The raising of existing roof lines for additional space is not appropriate for primary facades. Roof alterations should be confined to rear or non-readily visible side facades.

3. New entrance openings and windows should not be added to primary facades. If new entrances and windows are required, rear facades or secondary facades not readily visible are more appropriate locations.
4. Maintain traditional patterns and relationships between buildings and avoid new construction which disturbs the existing spacing between buildings.

### **6.8.2.3 Exterior Materials**

General Approach: Preserve and maintain original exterior materials.

1. Preserve and repair original exterior materials and detailing. Exactly match the original material, texture, color, and detail of elements that must be replaced. If exact replicas cannot be found, use compatible substitute materials.
2. If wood siding was the original exterior material, the removal of the later replacement material and the rehabilitation of the original siding (or replacement, where it has been removed) is recommended.
3. Wood siding should not be covered with artificial materials such as vinyl, aluminum, or Drivet.

### **6.8.2.4 Entrances and Doors**

General Approach: Original entrances and doors should be preserved and maintained.

1. Avoid the infill of original entrances and doorways.
2. Where replacement is necessary, the new doors should match the original

as closely as possible in design and materials.

3. If the original design is not readily apparent, consult original drawings for designs for replication or identification of similar compatible doors.
4. Replace inappropriately altered or replaced doors with designs matching the original.

#### **6.8.2.5 Windows**

General Approach: Original windows should be preserved, repaired, and maintained. Windows should not be covered or enclosed.

1. Avoid the infill of windows.
2. Window repair should maintain the original size of the unit and configuration of lights (panes).
3. If windows are deteriorated beyond repair, replacement windows should be of matching materials detailed in keeping with the original design.
4. Wood windows should be repaired rather than replaced. If replacement is required matching wood windows are preferable over metal windows.
5. Avoid painting out windows in an obvious manner. If this is absolutely necessary, paint interior surfaces with a dark color, possibly black, to help maintain the open appearance of the glazing from the exterior.

#### **6.8.2.6 Roofs and Roof System Components**

General Approach: Original roof shape, configuration, and materials should be preserved, repaired, and maintained. Original roof shapes and designs should not be altered on primary facades or readily visible secondary facades.

#### **6.8.2.7 Additions**

General Approach: Additions should be contemporary in design but compatible with the original building with respect to mass, proportion, materials and detailing. Additions should be distinguishable as new and not as exact copies of the original structure.

1. Additions should be secondary in appearance and not be of a scale which overwhelms or dominates the original structure.
2. Additions should not be sited so as to alter the building's original orientation.
3. Additions should be constructed so that they do not result in significant loss of historic fabric of the original building.
4. Monitor building construction to ensure that additions do not add undue stress to original buildings.

#### **6.8.2.8 Interiors**

General Approach: Retain interior form, plan, arrangement and features of the buildings as much as possible. Interiors should be analyzed as part of condition assessments to determine the type and extent of significant spaces and detailing. Use existing features as guides for modifications and new construction.

1. Preserve significant interior features such as stairway railings, trim, doors and hardware, lighting fixtures, etc. Incorporate these features into the new design in a sensitive manner.
2. Avoid the subdivision of significant interior spaces with permanent partition walls. If subdivision is required, utilize temporary or removable partition walls so that the interior could be restored to its original design if so desired.



3. Keep ceiling heights close to their original measurements and utilize rehabilitation methods which preserve significant original ceiling designs and materials.
4. Where suspended acoustical tile ceilings are required, place these ceilings as close to the original ceiling height as possible and above the heads of all windows. If this is not feasible, the ceiling should be constructed with a furr-out two to four feet from the window face so that the full height of the window can be seen from the interior and the lowered ceiling is not readily visible from the exterior.
5. Repair significant damaged interior fabric and preserve important historic features and detailing. If these features must be concealed, employ methods which result in the least harm to the original fabric.
6. During repairs, use materials which match the original. Retain and restore original surfaces when possible.
7. Preserve and maintain original interior doors.
8. Preserve and maintain original hardware.
9. Repair or replace broken hardware and fixtures, taking care to retain the original design, shape, material and finish.
10. Reuse original hardware on new windows and doors if possible.
11. Choose new hardware which retains the visual character of original hardware and install in a manner that will not compromise the doors or windows.
12. Avoid the removal of original partitions and the construction of new partitions except when absolutely necessary.

13. Try to restore original monumental spaces within buildings and to find suitable uses for those spaces.

#### **6.8.2.9 Mechanical and Electrical Systems**

**Background:** The mechanical and electrical systems of SRMSC pose a particular preservation issue, since the SRMSC engineering designs and architectural style were specifically designed to be nuclear resistant. Additionally, many of the SRMSC electrical components were considered to be "state of the art" technology at the time of their deployment; and their design, development, production, and operation represented significant advances in radar, weaponry, data processing, and communications technology. Viewed in this context, many of the individual mechanical and electrical components (such as control panels, work stations, shock isolation platforms, etc.) are historically significant in their own right. However, due to rapid developments in new technology and mission requirements, upgrade and replacement of these systems may be unavoidable.

**Repair and Maintenance Approach:** Because mechanical, electrical and plumbing systems and components have recognized life expectancies and maintenance requirements, inspections, repairs, component replacement, and maintenance of these systems and their components will be required. Care should be taken in the planning and performance of both maintenance and repair activities so that system components are not damaged, altered, obscured, or that significant original materials and detailing are not obscured. Generally, consultation with the North Dakota SHPO performed in compliance with Section 106 of the NHPA will not be necessary for routine repair, component replacement and maintenance activities.

**Replacement and Removal Approach:** Because mechanical, electrical and plumbing systems and components have recognized life expectancies, eventual replacement and removal of these systems and their components will be required. This is particularly relevant in the case of the PAR, where the radar system continues to be operated, and equipment upgrades and modifications are performed to enhance the reliability and

capabilities of the radar. Care should be taken in both removing and replacing system components so as not to damage, alter, obscure, or otherwise obliterate significant original materials and detailing. Modernizing systems, where newer elements are installed where they are not easily discernable, generally can be conducted as part of routine maintenance activities described in the PA. Where an entire system is to be removed (e.g. control panels, work stations, shock isolation platforms, etc.), or the original character of an area is changed, consultation with the North Dakota SHPO in compliance with Section 106 of the NHPA should be performed. In some cases, photographic documentation and measured mechanical drawings may need to be made of the system before its removal. In other cases, the system itself may be saved for eventual preservation. When possible, new systems should be designed to be compatible with the appearance, installation, and configuration of Cold War mechanical and electrical systems. Additionally, some general rules should be adhered to when feasible:

1. Use existing chases, ducts and vents whenever possible for new mechanical systems to avoid additional openings.
2. It is preferable to preserve significant original lighting fixtures not in use rather than to remove them entirely.
3. Install distribution systems for new mechanical, electrical, and communications, integrating them in an inconspicuous manner while providing for both horizontal and vertical distribution.

### **6.8.3 New Construction**

General Approach: New construction proposed for the various complex sites should be contemporary in design, yet compatible in scale, height, materials, shape, orientation, rhythm and proportion of openings, texture and placement.

A central tenet of architectural design, not generally recognizable in modern projects, has been respect for context, the visual fit of new work into existing surroundings. Often this means "fitting in" rather than "standing out". Few modern buildings are good

neighbors, partially because building technology has permitted new structures of widely ranging scales and forms. The original components of each of the Safeguard sites has generally established a context. A new building or addition should stand on its own as a product of its time, but it must not degrade the historic character of existing structures. This will insure that new buildings or additions harmonize with the old.

1. New elements should relate clearly to one or more of the distinguishing characteristics of original buildings.
2. New work should stand on its own merits visually.
3. Use new construction to provide services, accessibility and other modern requirements that cannot be comfortably fit into an existing building.
4. Design elevations for new additions based on features, materials, proportions, scales or symmetries of the adjacent existing elevations.
5. Do not add to the height or roof of an existing building.
6. As much as possible keep the height and bulk of new additions smaller than the existing building.
7. Make any bridges or independent connections appear to be light in visual terms and harmonious in materials and detailing to the existing building.
8. Make vents, skylights, and other new elements on the roof fit as discreetly as possible, both visually and materially.
9. Make floor levels of new construction correspond to existing floor levels; try to incorporate necessary level changes and ramps within the new construction.
10. Keep new additions well fire-separated so as not to force the existing building to meet potentially damaging new-building requirements.

11. Where applicable, new construction should be aligned with existing setbacks or site planning concepts.
12. The orientation and roof forms should be consistent with adjacent buildings.

#### **6.8.4 Energy Conservation**

General Approach: To balance historic character, comfort and energy efficiency.

Traditional approaches to heating and cooling in historic buildings have needed to be adapted to modern considerations of comfort and energy efficiency. Radical differences in temperature create the risk of condensation in the height of both seasons (heating and cooling). Condensation, with consequent frost damage and salt crystallization in masonry walls, rot and disintegration in mouldy woodwork, rusting of ferrous metal components and the disintegration of gypboard and paint, is the major evil lurking inside inappropriately sealed and insulated buildings.

1. Maintain and use the inherently energy conserving and comfort-enhancing architectural features of historic buildings.
  - vestibules as air locks
  - thermal mass of masonry walls to even out daily temperature extremes
  - operable windows for cross ventilation during the summer
  - drapes, curtains and blinds for winter window insulation and draft-proofing
  - exterior awnings and interior window shades for summer shading
2. Although it may not be practical in some of the larger tactical buildings, it is advisable to keep interior humidity within a range that will not lead to damage by condensation.
3. Keep heating and ventilation equipment well-maintained.

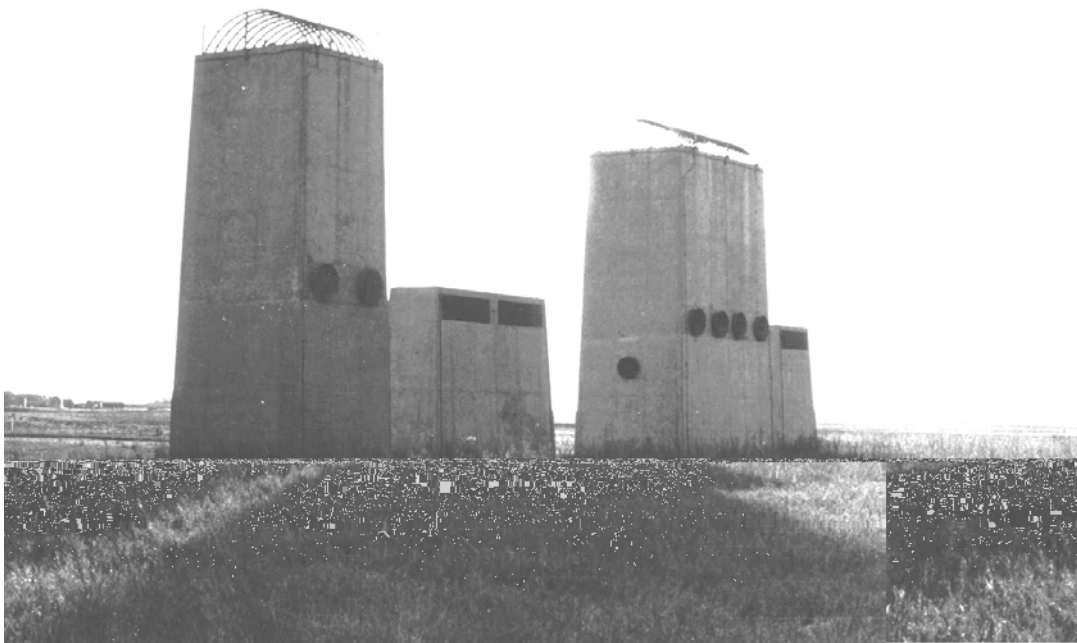
4. Do not ignore the architectural character of the existing building in designing energy-conservation retrofits.
5. Inspect thoroughly for energy-conserving potential in an historic building and incorporate appropriate measures as part of the larger project; energy savings alone will not pay back much more than the costs of modest caulking and weather-stripping and updating the efficiency of mechanical equipment.
6. Air sealing-tightening up the flow of air through exterior walls by weather-stripping, caulking, and repairing cracks - is the most generally useful and least problematic energy-conserving strategy for historic buildings; need to ensure sufficient air changes to ventilate living spaces and prevent build-ups of harmful exhausts.
7. Generally, do not insulate without using vapor barriers.
8. Ensure as much as possible that moisture does not condense where it will lead to damage in the form of wood rot, corrosion, or freezing.
9. Vent high moisture areas (bathrooms, laundries, etc.) directly to the outside.

#### **6.8.5 Handicap Accessibility**

This section is not a mandate to provide this accessibility, but is only guidance during those rare situations where it may be necessary. General Approach: Plan for added handicapped accessibility without removing historic fabric.

1. Insert wider doorways, elevators, chair lifts, or ramps adjacent to but not impinging on valuable historic fabric or make such access part of distinct additions.
2. Where possible, use elevators that do not require rooftop additions.

3. Provide wheelchair-accessible entrances as close as possible to existing floor levels with external ramps; where possible, to minimize visual impact, make them slope down from ground level to a lower-level entrance, rather than up.
4. Where new external ramps are unavoidable, place them so as not to disturb the formal symmetry or balance of the building and design them to fit discreetly into the overall look of the structure (in practice, this means using a side or rear elevation as a new major entrance).



North Dakota Stonehenge  
The Exhaust Stacks at the Missile Site Radar Power Plant



## **7.0 CHAPTER SEVEN COMPLIANCE WITH SECTION 106 OF THE NATIONAL HISTORIC PRESERVATION ACT**

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### **7.1 SECTION 106 COMPLIANCE**

According to AR 200-4, the primary responsibility for management of Army installations normally rests with the Directorate of Public Works and its staff. Part of the SRMSC is a non-active installation and is managed from Huntsville, Alabama, by the Deputy Chief of Staff, Engineer (DCSEN) of USASMDC. Part of the SRMSC is under active lease to the U.S. Air Force. A USASMDC representative is at the site full time and oversees the management of the properties in accordance with this CRMP and other regulations. Those personnel who are charged with the management of historic preservation of the installation's cultural resources at the SRMSC have a two-fold task. First, they must determine the impact of the Army's or Air Forces's undertakings or actions on the historic resources and secondly they must comply with appropriate Federal laws and regulations. Although it is shown as one continuous process in the Compliance Keys of this chapter, both resource impacts and compliance concerns are covered. This process meets the criteria of Section 106 of the NHPA, amended, and implementing regulations set forth in 36 CFR 800, which were revised in May, 1999.

### **7.2 THE PLANNING DECISIONS**

A basic planning tool that the SRMSC and USASMDC personnel will use will be the HAER which was completed in February 1995. This document consists of a historic context for the SRMSC as a whole and histories, descriptions, photographs and construction drawings of all buildings and structures that are eligible for inclusion in the NR. The information in the HAER and this CRMP should be used as a first step in the planning process for any proposed undertakings for the SRMSC. The emphasis on the compliance processes at the SRMSC will be on Cold War significant buildings and structures. There are no pre-Cold War structures on the installations and there is no evidence of subsurface archaeological deposits at any of the six SRMSC sites. Additionally, if subsurface resources did exist before construction of the installations, those activities would have extensively disturbed those deposits.

The following planning process assumes that an analysis for an undertaking has already taken place to determine the best site for the undertaking in regards to accessibility, fiscal constraints and logistic concerns and building suitability. (Although an undertaking is any project which utilizes federal funds or requires a Federal permit, most undertakings performed at the SRMSC are part of routine operations and maintenance and will already have undergone consultation as part of the Programmatic agreement or under parts of this CRMP. Most undertakings that will undergo consultation under the guidelines here will be major projects which have not been analyzed previously in the Programmatic Agreement, this CRMP or under the NEPA process.)

The planner at this point already knows either (1) the optimal site for the particular undertaking or (2) has developed a building rehabilitation design which has the least impact on the historic character of existing facilities; or the planner has generated a list of such designs, which in descending order become less desirable. In some cases, the planner has determined that the undertaking is not site specific and can occur anywhere. In the latter case, the planner is looking for a “least cost” alternative, this is dependent upon the cost of mitigating the undertaking impact on the cultural resources - the final site analysis in the process. Because of their familiarity with the CRMP and the fact that cultural resource management is part of their staff responsibility, this siting factor will have to be applied and interpreted by personnel from the Environmental Office of the Deputy Chief of Staff, Engineer, and the Historical Office of the USASMDC.

Because the concepts of “effect” and “adverse effects” are central to much of the process that follows, it is important that their meaning under the law be understood at the outset. The decision of “effect” and “adverse effect” is governed by those factors as outlined in 36 CFR 800, Section 800.5. The determination of effect is the responsibility of the USASMDC when planning a particular action or undertaking. An “effect” is any impact that an undertaking may have on a historic property. This could be anything, even if beneficial to the structure, that might alter the property to the extent that it may degrade its eligibility for listing on the NR.

Section 800.5 says that "adverse effects" include physical destruction, damage, or alteration of all or part of the property; altering the setting of the property so that the character of the property has changed sufficiently as to make it no longer eligible for the

NR; introduction of visual, audible, or atmospheric elements that are out of character with the property or alter its setting; neglect of property to the extent that it results in deterioration or destruction; and transfer, lease, or sale of the property.

### **7.3 THE COMPLIANCE KEYS**

There are two versions of the same Key presented: The Abbreviated Key and The Annotated Key. They present exactly the same information and process. The Abbreviated Key shows the process in simplified terms, i.e. an overview of the process. The Annotated Key fills in the details as to precisely what needs to be done. **(NOTE: activities that are specifically listed in the Programmatic Agreement or parts of this CRMP as not requiring Section 106 consultation do not require further consultation or the use of this key.)**

#### **7.3.1 The Abbreviated Key**

1. The proposed undertaking will take place in, or adjacent to, a building or structure which is listed or eligible for listing on the NR, or will visually or otherwise compromise the historic character of the property.

**1(a) yes.....Go to 2.**

**1(b) no.....Go to 1(b)1 or 1(b)2**

**1(b)1 SHPO concurs.....Go to 7**

**1(b)2 SHPO does not concur.....Go to 2**

2. USASMDC determines if their undertaking will have an effect on cultural resources. USASMDC determines if any local governments or interested parties should be included in the consultation process. They are invited to participate.

**2(a) yes, there will be an effect.....Go to 3.**

**2(b) no, there will not be an effect.....Go to 2(b) 1**

**2(b)1 SHPO concurs.....Go to 7**

**2(b)2 SHPO does not concur.....Go to 3**

3. USASMDC determines their undertaking will have an adverse effect on cultural resources.

**3(a) yes.....Go to 4**

**3(b) no.....Go to 3(b)**

**3(b) 1 SHPO concurs.....Go to 7**

**3(b) 2 SHPO does not concur.....Go to 4**

**3(b) 3 SHPO or USASMDC invites the ACHP to participate in consultation...Go to 5**

4. USASMDC and the North Dakota SHPO agree on a mitigation plan resulting in a Memorandum of Agreement (MOA).

**4(a) yes.....Go to 7**

**4(b) no.....SHPO or USASMDC notifies the ACHP...Go to 5 (*If the ACHP has previously declined to participate, the USASMDC and the SHPO must come to an agreement*)**

5. The ACHP will decide if they will participate in the consultation process

**5(a) yes the ACHP agrees to participate.....Go to 6**

**5(b) no the ACHP decides not to participate....Go back to 4**

6. The ACHP will assist in seeking ways to minimize or mitigate the adverse effect. If the USASMDC and SHPO agree, they shall execute a MOA.....**Go to 7**

7. The compliance process ends. The undertaking may proceed. (Note - Mitigations that are agreed to must be implemented. Public notification is required in all cases.)

### **7.3.2 The Annotated Key**

1. A determination must be made as to whether the proposed action will occur in or adjacent to a building or structure which is listed or eligible for listing on the National Register. **Choose 1(a) or 1(b).**

**1(a)** According to Chapter 5 of the CRPM, the building or structure is listed or eligible for listing on the NR. **Go to Key item 2.**

**1(b)** According to Chapter 5 of the CRMP, the building or structure is not listed or is not eligible for listing on the NR. A letter of "No Historic Properties Affected" is prepared and sent to SHPO (this letter is waved if the property is specifically listed as not eligible in Chapter 5). **If SHPO concurs go to 7, if SHPO does not concur go to 2.**

**2.** USASMDC Environmental Office has made an official determination that there is or is not an effect of the proposed undertaking on cultural resources. Other interested parties in the community are also notified as per Section 7.7 of the CRMP and documentation is made available to them if it is requested. **Choose 2(a) or 2(b).**

**2(a)** USASMDC determines the undertaking will affect cultural resources. This determination will be made by applying the Criteria of Effect as outlined in this chapter and Section 800.5 of 36 CFR 800. (see the Appendix of the Planning Manual for a copy of 36 CFR 800). The result will be a finding of effect or no effect. **If there is effect go to Key item 3. If there is no effect go to 2(b)**

**2(b)** USASMDC determines the undertaking will not affect cultural resources. When this is the official position of USASMDC they must document their decision and submit it to the North Dakota SHPO. Documentation is accomplished by sending a letter of "No Effect" to the SHPO. Unless the North Dakota SHPO does not concur and objects within 30 days, this is the extent of USASMDC's culture resource responsibility for that subject and this particular action or undertaking can proceed. **Go to Key item 7.** If the North Dakota SHPO does not concur with USASMDC determination of no effect the undertaking is considered to have an effect, and the Criteria of Adverse Effect are used to make a determination as to whether it is adverse or not. **Go to Key item 3.**

**3.** USASMDC decides whether, in their view, the undertaking will have an adverse effect or not. **Choose 3(a) or 3(b).**

**3(a)** USASMDC determines that the undertaking will have an adverse effect on cultural resources. This determination will be made by applying the Criteria of Adverse

Effect as outlined in this chapter and Section 800.5 of 36 CFR 800. (see the Appendix of the Planning Manual for a copy of 36 CFR 800.). If this determination is made, USASMDC will consult with the North Dakota SHPO to find ways to avoid or reduce the perceived effects of the undertaking on historic properties. (Either USASMDC or the North Dakota SHPO may request the ACHP to participate in the process or the ACHP may participate by its own choice). After the completion of this process, USASMDC and the SHPO may or may not reach agreement on a mitigation plan. **Go to Key item 4.**

**3(b)** USASMDC determines that the undertaking will not have an adverse effect on cultural resources after the criteria for determination has been applied. USASMDC prepares an "Determination of No Adverse Effect" and sends it to the North Dakota SHPO. If the North Dakota SHPO concurs with this determination **Go to Key item 7.** If the North Dakota SHPO does not concur **Go to Key item 4.** If it is clear that the USASMDC and the North Dakota SHPO cannot agree, either party may invite the ACHP to participate. If so, **go to Key item 5.**

**4.** USASMDC and the North Dakota SHPO have met and worked on a mitigation plan. Other interested parties in the community are also invited to participate and are provided documentation on the undertaking and are allowed to comment. **Choose 4(a) or 4(b).**

**4(a)** USASMDC and the North Dakota SHPO agree on a mitigation plan. If agreement is reached by these two parties as to how effects will be taken into account, they shall execute a MOA. (If the ACHP has participated in the process, it will sign the agreement as well **See Key item 5.**) If the ACHP does not participate in the process, the USASMDC will provide a file copy of the completed MOA to them. When all parties have signed the agreement, the undertaking can proceed within the terms of the MOA **Go to Key item 7.**

**4(b)** USASMDC and the North Dakota SHPO do not agree on a mitigation plan. If the USASMDC and the North Dakota SHPO cannot agree, USASMDC or North Dakota SHPO will invite the ACHP to participate in the process and will notify all other parties of its request. **Go to Key item 5. (If the ACHP has previously declined to participate, the USASMDC and the SHPO must come to an agreement)**

5. The ACHP will decide if they will participate in the consultation process. If they choose to participate **Go to Key item 6**. If the ACHP chooses not to participate **Go back to Key item 4**.

6. If the ACHP chooses to participate all participants will provide pertinent data to the ACHP regarding the undertaking. The ACHP will provide input in seeking ways to minimize or mitigate the adverse effects of the undertaking. All parties involved with the consultation will participate in executing a MOA. **Go to Key item 7**.

7. This marks the end of the compliance process. All documentation and correspondence regarding the process should be kept on file by USASMDC in the offices of the DCSN. (Note – Mitigations that are agreed to must be implemented. The USASMDC will provide public notification of the complete MOA in all cases.)

#### **7.4 COORDINATION WITH THE NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)**

The revised regulations that govern the Section 106 process suggest an early coordination with compliance with NEPA. Much of the cultural resource analysis for an undertaking under NEPA is essentially the same as that done for the Section 106 process. As a result, 36 CFR, Part 800.8 now allows the use of the NEPA process for Section 106 purposes. NEPA analysis can be used in lieu of Section 106 if the following standards are met:

- The USASMDC notifies the North Dakota SHPO and the ACHP (in the case of an Environmental Impact Statement [EIS]) in advance that it intends to coordinate its NEPA and Section 106 efforts,
- Interested parties are identified, historic properties are identified, and effects are assessed to the same standards as required under 36 CFR Part 800,
- Involve the public in accordance with NEPA procedures,
- Consult with SHPO and other parties regarding effects during NEPA scoping, environmental analysis and preparation of NEPA documents,

- Develop measures that might avoid, minimize or mitigate adverse effects, in consultation with the SHPO and other parties, and describe them in the Environmental Assessment (EA) or EIS.

If the NEPA document is an EA, the North Dakota SHPO will be the primary consulting party. The USASMDC will submit the EA to the SHPO and other interested parties prior to, or when making the document available for public comment. If the document is a Draft EIS or EIS, the ACHP will also be invited to participate.

## **7.5 EMERGENCY PROCEDURES: UNEXPECTED DISCOVERIES**

### **7.5.1 Discovery of Archaeological Sites**

As stated before, no archaeological sites are known to exist on SRMSC properties and it is unlikely that any will be discovered due to extensive disturbance of the ground during construction activities. The findings during the “Cultural Resource Survey Of The Cavalier Air Force Station, Cavalier, North Dakota” conducted in 1991, are applicable to all of the SRMSC. The investigating archaeologist stated in that report “...the amount of surface disturbance during the construction of the PAR building and other buildings at the location has destroyed any possible integrity of cultural resources. Cultural resources may have been present prior to the construction, but if so, it is no longer possible to find any evidence of them. No additional work is recommended.” However, in the unlikely event that subsurface archaeological deposits are discovered, these guidelines are provided.

There are specific procedures that are to be followed if a Federal project has satisfied all of the compliance laws, rules and regulations, has proceeded with the project and then discovers significant data that may be irrevocably lost or destroyed. For the SRMSC, data in this case would probably mean finding an unexpected historic or prehistoric archaeological site. Should such a circumstance arise, SRMSC personnel have two options.



First, the Environmental Office of the DCSen, USASMDC should call the DCA, (202 343-4101) in Washington, D.C. and advise him/her of the existing situation (As a courtesy it would be prudent for USASMDC to contact the North Dakota SHPO at this time also). This would include as much documentation as possible regarding what undertaking is in progress, what resources may be impacted, and what is the exact nature of the threat. The DCA may then consult with the ACHP and the North Dakota SHPO, any one of whom may require an on-site inspection. Depending upon his findings, he may advise that certain specific mitigation measures be taken, which could include full scale data recovery or salvage. USASMDC may expend up to 1% of the cost of the undertaking to accomplish these activities. (Note: the 1% rule does not apply to undertakings of under \$50,000.00, or where significant cultural resources, requiring more than 1% of the undertaking costs are involved.)

A second option is to prepare a mitigation plan as soon as possible for the site(s) in question. This should be sent to the North Dakota SHPO and the ACHP. If the USASMDC makes a specific request, the ACHP must respond with preliminary comments within 48 hours and final comments within 30 days. This is probably the most rapid course of action for the USASMDC since technically the undertaking in progress does not have to be halted. The USASMDC would, however, have to make every reasonable attempt not to further disturb the site until a mitigation plan can be put into effect.

Another option that exists, but is not recommended due to the length of time involved, is to begin the Section 106 compliance process from the beginning as outlined in the above Key. If this option is chosen, thorough documentation of the steps taken to ensure compliance must be made, to ensure the technical adequacy of the undertaking with the North Dakota SHPO or the ACHP.

### **7.5.2 Unexpected Discovery of Human Remains**

All discoveries of human remains must be treated following DoI guidelines. These actions, which will be conducted in consultation with the DCSen and the Historical Office of USASMDC, are as follows:

**Discovery and Initial Determination** - If, in the course of any undertaking human remains are discovered, the individual in charge of the site should immediately cease all work associated with the excavation and ensure it is cordoned off and secure from pilferage. If it is readily apparent that they are non-human, the person in charge of the construction site will make a determination on the age of the remains. If the remains appear to be old and/or there are associated Native American artifacts present, the site will be treated as a cultural resource in accordance with section 7.5.1 of this CRMP. If the remains are relatively new and are judged not to be a cultural resource, work may resume. If the nature of the site is not readily discernable, a qualified archaeologist will be brought in to make the determination.

**Human Remains and Nature of Death Determination** - If the remains appear to be human, local law enforcement personnel will be summoned and will determine the nature of death. Age, subsurface depth, and artifact context should give clues as to circumstances of the individual's demise. If there is any suspicion that the remains represent a relatively recent murder or accident victim, the site should be considered a crime scene and the investigation should be turned over in its entirety to law enforcement personnel. If it is determined that the remains are part of a historic era burial or a prehistoric archeological site, it will be considered a cultural resource. The SRMSC will contact the Environmental Office at USASMDC who will begin the procedures outlined in section 7.6.1.

Additionally, the SRMSC and USASMDC personnel will be responsible for observing the following guidelines:

\* Where the disturbance involves identifiable interments of human remains, the USASMDC Public Affairs Office, with assistance from the Historical Office will make a reasonable effort to identify and locate individuals who can demonstrate direct kinship with the interred individuals. Identification could be through means of researching the historic record, or may require data recovery by a qualified archaeologist. Public notices published in area newspapers could simultaneously request information which would identify remains and notify next of kin of the cemeteries imminent removal. The USASMDC will consult with such persons who respond to notification in a timely

fashion, and through such consultation, will determine the most appropriate treatment of the interments.

\* If the remains are determined to be Native American, they will be treated under the guidelines of NAGPRA, described in Chapter 4. The North Dakota Tribal Reinterment Committee will be consulted and may assist in removal and reinterment of the remains.

\* Where the disturbance involves interments which are associated with historic era archaeological sites or remains which the USASMDC cannot identify with a specific ethnic or racial group, the remains will be turned over to the State of the North Dakota.

\* USASMDC will treat discovered human remains with dignity and respect. If previously unrecorded cemeteries are encountered, their extent should be delineated through archaeological and historic examination. The area should then be treated like other known cemeteries on Army property (i.e., preferably marked and protected). If protection of the cemetery area is not possible, provisions for its removal and relocation are to be made by the Army, acting in consultation with the DCA and North Dakota SHPO office. Archaeological investigation of these human remains should be undertaken if feasible and warranted, to ensure the accurate locations, removal, and identification of the interments.

## **7.6 INTERESTED PERSONS PARTICIPATION**

Interested persons are those organizations and individuals that are concerned with the effects of an undertaking on historic properties. The NHPA requires that interested persons be invited to become consulting parties in the Section 106 process under certain circumstances. In addition, whenever the USASMDC, the SHPO or the Advisory Council, if participating, agree that active participation of an interested person will advance the objectives of Section 106, they may invite that person to become a consulting party. Within six months after the completion of this CRMP, the USASMDC should make an inquiry of each of the local governments in the area (Nekoma, Langdon, and Cavalier) to determine if they would like to participate in future Section 106

consultations. If they decline, or do not respond, they will not take part in future consultations unless they specifically request it. For general public participation, public notices should be placed in local newspapers by the USASMDC to invite comment. Interested persons may include:

**Local Governments** - Local governments are encouraged to take an active role in the Section 106 process when undertakings affect historic properties within their jurisdiction.

**Indian Tribes** - The USASMDC, the SHPO, and the Advisory Council should be sensitive to the special concerns of Indian Tribes in historic preservation issues. When an undertaking will affect Indian lands or prehistoric sites, which may hold significance to specific Indian tribes, the USASMDC shall invite the governing body of the tribe to be a consulting party and to concur in any agreement. Indian tribe involvement in Section 106 consultation at the SRMSC is highly unlikely, as no prehistoric or Native American sites have been discovered on any of the six sub-installations. (Should Native American remains be discovered during an undertaking, the North Dakota Tribal Reinterment Committee will be consulted.)

**Historic Societies and Clubs** - Organizations who have people with like interests in certain historic locals or eras, who often have a immense collective knowledge about a property, may be a valuable asset in the Section 106 process. These groups may be local, regional or national in interest.

**Public Participation** - The Advisory Council values the views of the public on historic preservation issues and encourages maximum public participation in the Section 106 process. The USASMDC and the SHPO should seek and consider the views of the public when taking steps to identify historic properties, evaluate effects, and develop alternatives. Public participation in the Section 106 process may be coordinated with public participation in the NEPA. A scoping meeting or public hearing for a NEPA issue can be done in lieu of one for the Section 106 process. The NEPA document may also substitute for the standard Section 106 process (see section 7.5 of this CRPM). Notice to the public should adequately inform the public of preservation issues in order to elicit public views on such issues that can then be considered and resolved, if possible, during

decision making for the undertaking or proposed action. Members of the public with interests in the undertaking and its effects on historic properties should be given reasonable opportunity to have an active role in the NEPA or Section 106 process.



**Spartan Missile Field with the Missile Site Control Building in the Background**

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